

POSTDOCTORAL RESEARCH ASSOCIATE IN DYNAMICAL SYSTEMS  
FACULTY OF SCIENCE  
SCHOOL OF MATHEMATICS AND STATISTICS  
REFERENCE NO. 2142/1211

Applications are sought for a Postdoctoral Research Associate position in Dynamical Systems. This position is funded by an Australian Research Council (ARC) Discovery Project Grant †Extracting macroscopic variables and their dynamics in multiscale systems with metastable states‡ held by Gary Froyland ([g.froyland@unsw.edu.au](mailto:g.froyland@unsw.edu.au)) and Georg Gottwald ([georg.gottwald@usyd.edu.au](mailto:georg.gottwald@usyd.edu.au)).

The dynamics of large complex systems are complicated by their high dimensionality and by the possible existence of processes running on temporal scales varying by several orders of magnitude. The aim of this project is to develop innovative mathematical theory and numerical algorithms to identify a set of reduced low-dimensional macroscopic coordinates, given only a set of observations, that best capture the long term behaviour of such complex systems. The mathematical toolset will include analytical and numerical methods from dynamical systems theory and ergodic theory.

This is an opportunity to play a leading role within a collaborative research team based at the Schools of Mathematics and Statistics at the University of Sydney and the University of New South Wales. Teaching is not a requirement however opportunities to teach may be available if desired.

You will have:

- PhD degree in Mathematics or be close to completing one
- expertise in dynamical systems theory and/or ergodic theory with programming skills
- demonstrated ability to conduct high-quality research under limited supervision either independently or as part of a research team
- published research as sole author or in collaboration
- excellent written and verbal communication skills.

The position is full-time fixed-term for two years subject to completion of a satisfactory probation and confirmation period for new appointees. Membership of a University approved superannuation scheme is a condition of appointment.

Remuneration package: approx. \$92K p.a. (as of January 2012, which includes Level A6 base salary, leave loading and 17% employer's contribution to superannuation). The Level of appointment will be commensurate with experience and expertise.

All applications must be submitted via the University of Sydney careers website. Visit [sydney.edu.au/positions](http://sydney.edu.au/positions) and search by the reference number for more information and to apply.

CLOSING DATE: 6 February 2012 (11:30pm Sydney time)