**PROGRAMMER FOR SCIENTIFIC SOFTWARE DEVELOPMENT IN BRAIN DYNAMICS**

Complex Systems Group - ARC Centre of Excellence for Integrative Brain Function

Casual staff, up to 20 hours a week for 6 months. Expected hourly rate is at level HEO 5 with step depending on experience ($47.46 - $53.16 per hour). Desired start in September 2016.

The successful applicant will work in the Brain Dynamics Group of Prof Peter Robinson in collaboration with Dr Paula Sanz-Leon to work on the development and further advancement of a scientific software to simulate the electrical activity of neural tissue. The numerical simulations of neural fields allow for the study of multiscale, emergent, nonlinear, and critical phenomena in the brain when theoretical analysis become intractable. The current code is already mature piece of software. However, it still needs refinement, exhaustive testing and detailed technical documentation. New features also need to be incorporated in the future.

Responsibilities include (tasks and expected results, non-exhaustive list):
- Documenting the code
- Improving the users manual
- Writing unit tests
- Benchmarking
- Adding new models of noise generation
- Adding new functionality

Essential criteria include:
- an undergraduate major in computer science, physics, applied mathematics, engineering, or allied field; with experience in (biological) physical modelling.
- at least 2 years of demonstrated practical experience with C++ (preferable) or other major programming language for scientific software development;
- good understanding of Object Oriented Programming;
- proved coding ability and evidence of self-motivation and independence;
- proficiency in numerical methods for solving PDEs;
- evidence of working with git or another version control system;
- good English skills;
- good team player, motivated to learn and propose new technologies and assist with challenging algorithms;

Desirable criteria include:
- experience in computational physics (preferably modelling physical or biological systems)
- motivation to interact with users and help them learning how to use the software
- knowing about benchmarking and profiling;
- an ability to start work by 15th September 2016
If you learned to write excellent code for scientific research and love being challenged, we'd be happy to hear about you.

To apply
Send you CV and a brief response to how you meet the essential criteria (maximum 1 page) to cindy.guy@sydney.edu.au

All applications will be considered until the position is filled.