

PhD in Brain Dynamics

We are currently looking for one PhD student to join the Brain Dynamics group at the Brain Sciences Institute in Melbourne by early 2010. The main focus of proposed research will be the neurophysics of the mammalian electroencephalogram (EEG), in particular the mean-field modelling of electrocortical activity. The candidate can choose among a range of theoretical projects in dynamical systems theory, nonlinear time series analysis, bifurcation theory, modelling of epilepsy and anesthesia, phase transitions in the brain and signal processing.

Interested applicants should have a strong background in any of the following disciplines: theoretical physics, mathematics, biomedical or electrical engineering, quantitative biology. A first class honours degree or equivalent is expected. Proficiency in any of the following: C, Fortran, Python, Matlab, Octave, Matcont, Auto, R, Mathematica, XPPAUT will be an advantage.

The Brain Dynamics group is part of the Brain Sciences Institute, a vibrant, multi-disciplinary team of researchers whose expertise spans several different fields that include physics, psychology, psychophysiology, biophysics and the neurosciences.

The group is also involved in active collaborations with scientific institutions and universities in Australia, Canada, Germany, U.K., U.S. and Italy. The candidate will be encouraged to profit from these collaborations and spend time overseas during his/her candidature.

A range of scholarships for national and international students are available, with up to AU\$23,000 per year for three and a half years, tax-free.

The deadline for applications is the 31st October 2009.

More details on the application process can be found at <http://www.research.swinburne.edu.au/higher-degrees/application/>. International students are required to sit an IELTS test (or equivalent, e.g. TOEFL) with an average band score of at least 6.5, with no band less than 6.0. Swinburne also strongly encourages minorities and women to apply.

Interested applicants should email A/Prof. David T. J. Liley at dliley@swin.edu.au or Dr. Federico Frascoli at ffrascoli@swin.edu.au, including a brief cv, to discuss the projects in details.

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