



Computational prediction of drug cardiotoxicity

Senior Postdoctoral Fellow (Grade 8: Salary £33,779 - £40,335 p.a.)

Four Research Assistants (Grade 7: Salary £26,666 - £32,796 p.a.)

PreDiCT “Computational prediction of drug cardiotoxicity” is a recently-announced European Union project funded within the Virtual Physiological Human call. It aims to develop the computational tools and models, algorithms and methodologies required for the assessment of drug action in cardiac electromechanical behaviour. It is an international, multi-institutional and cross-disciplinary project team involving world experts on the theoretical and experimental techniques to study cardiac behaviour, and also major pharmaceutical companies.

A Senior Postdoctoral Fellow and four Research Assistant positions are available to work in a research team involving the Computational Biology Group at the Computing Laboratory and the Cardiac Electrophysiology Group in the Department of Physiology, Anatomy and Genetics in the University of Oxford. The earliest starting date of the posts will be June 2nd, 2008, and the project will run until the end of May 2011.

The main aim is to model and simulate drug action on the heart from the ionic to the whole organ level to investigate mechanisms of drug-induced cardiac arrhythmias and new biomarkers for drug cardiotoxicity. The appointees will be expected to contribute to at least two of the following areas:

- Mathematical modelling of drug-induced effects on cardiac electrophysiological behaviour (from ionic to ventricular level);
- Development of mathematical models and computational algorithms required to simulate whole ventricular electromechanical behaviour (including drug action);
- Development of algorithms for model validation, analysis and comparison.
- Development of ECG signal processing algorithms to identify potential biomarkers for drug-induced pro-arrhythmic risk;
- Investigation of mechanisms of drug-induced cardiac arrhythmias using computational modelling in combination with clinical and experimental data.

Further particulars for each of the posts and instructions on how to apply will be available at:

<http://www.admin.ox.ac.uk/ps/oao/arrs/index.shtml>

Closing date for the Senior Postdoctoral Fellow position will be: 18 April 2008.

Closing date for the 4 Research Assistant positions is expected to be at the end of April/beginning of May 2008.