

Graduate Studentship in Quantum Computing/Theoretical Chemistry

Ref: DPT/QCS/2020

Applications are invited for a DPhil studentship in Quantum Computing/Theoretical Chemistry available from October 2020, to work with Professor David Tew in the Physical & Theoretical Chemistry Laboratory, Oxford, UK. The subject will be: *'Methods for simulating chemistry using quantum computers'*.

Through the rapid developments in quantum technologies, quantum states can be created and manipulated with increasing control and increasing degrees of entanglement. The prospect of harnessing the advantages of quantum information processing to perform unprecedented simulations of quantum systems draws ever closer. This project will address the challenge of how best to map the simulation of chemical systems onto tasks that can be performed by current and future quantum devices. In particular, the project will involve developing powerful and practical new approaches for using quantum processors to solve for the eigenstates of electronic Hamiltonians. The project will involve a collaboration with the Quantum Photonics group of Prof. Anthony Laing in Bristol, where methods will be developed that are well suited to the quantum photonic devices built by his group.

This studentship is part of the Oxford DTP allocation ringfenced for the Quantum Computing and Simulation Hub. UKRI (UK Research and Innovation) eligibility criteria apply. The studentship will cover course fees at a Home rate and provide a stipend of no less than the standard UK Research Council rate, currently set at £15,285 per year, for 3.5 years.

Candidates with a first-class or strong upper second-class undergraduate degree in Chemistry, Physics or Applied Mathematics are encouraged to apply.

Candidates should submit a formal application for [DPhil in Physical and Theoretical Chemistry](#) via Oxford online application system:

<http://www.ox.ac.uk/admissions/graduate/applying-to-oxford> , quoting **DPT/QCS/2020**.

Application deadline: **12.00 noon UK time on Thursday, 30th April 2020**.

Queries relating to the application and admission process should be directed to: graduate.admissions@chem.ox.ac.uk ; tel.: +44 (0) 1865 272569.

For informal enquiries, email david.tew@chem.ox.ac.uk.

The Department of Chemistry holds the Athena SWAN Silver Award.