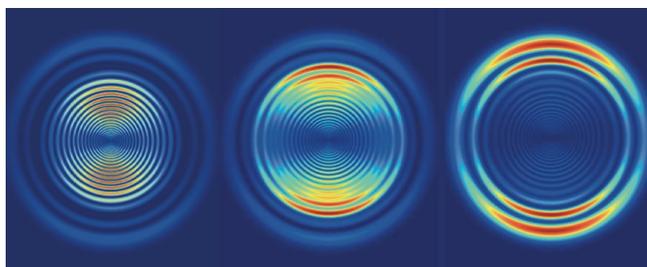


Fully funded PhD studentship in **Ultrafast Imaging and Quantum Dynamics**

3-year fully funded PhD studentship, September 2018, stipend ca. £14.5k pa

Dr Adam Kirrander, School of Chemistry, University of Edinburgh, UK  
[kirrander.com](http://kirrander.com) and [www.chem.ed.ac.uk/staff/academic/kirrander.html](http://www.chem.ed.ac.uk/staff/academic/kirrander.html)  
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*Applications are invited for a fully funded PhD studentship in Ultrafast Imaging and Quantum Dynamics in the Chemical Physics group of Dr Adam Kirrander at the School of Chemistry, Edinburgh.*

We look for a talented PhD candidate to join our team working towards unravelling the motion of nuclei and electrons during chemical reactions. In our research we use theory and simulations, and interact closely with world-leading experimental groups. We develop new theory and computational methods to unambiguously interpret exciting new experiments, in order to unlock the chemistry encoded in the data and with the aim to achieve a complete description of the experiment, from pump-pulse to detection. This involves *state-of-the-art* quantum dynamics, electronic structure theory, and developing new theory appropriate for modeling the interaction between excited molecules and ultrafast probes.

In part, this research is motivated by the emergence of new light (VUV/XUV/X-ray) and high-energy electron sources that provide new opportunities for the imaging of ultrafast processes, such as chemical dynamics. This includes the X-ray Free-Electron Lasers in Hamburg (XFEL) and California (LCLS), which generate short pulses of intense hard x-rays. Our group is one of the most active groups at the LCLS in the UK, and regularly participates in experiments in California, giving us unique insight into the experiments.

A suitable candidate will possess, or expect to obtain, a first class or upper-second class undergraduate degree (or equivalent) in chemical physics, chemistry or physics. Candidates with a background in computing or mathematics may also be considered. A strong interest in theory, quantum mechanics, and computation is a must, as is enthusiasm for (learning) computer programming. Other essential attributes are good presentation and communication skills, both written and oral. In the first instance, informal enquiries (accompanied by a CV, covering letter, and contact details of two referees) should be directed to Dr Adam Kirrander. For the formal application procedure see: <http://www.chem.ed.ac.uk/studying/postgraduate-research/applications-and-entry-requirements>.

Eligibility: Primarily UK residents, but outstanding EU candidates may be considered, for details see <https://www.epsrc.ac.uk/skills/students/help/eligibility/>. Starting date is September 2018. Applications will be considered until an excellent candidate has been identified.

The School of Chemistry holds a Silver Athena SWAN award in recognition of our commitment to advance gender equality in higher education. The University is a member of the Race Equality Charter and is a Stonewall Scotland Diversity Champion, actively promoting LGBT equality. The University has a range of initiatives to support a family friendly working environment. See our University Initiatives website for further information. University Initiatives website: <https://www.ed.ac.uk/equality-diversity/help-advice/family-friendly>

*About the University of Edinburgh:*

The School of Chemistry ([www.chem.ed.ac.uk](http://www.chem.ed.ac.uk)) has an extremely strong research reputation. The Universities of Edinburgh and St Andrews have formed EaStCHEM, the leading Chemistry research school in Scotland, and the largest in the UK. The University of Edinburgh is one of the largest and most successful universities in the UK with an international reputation as a center of excellence, and is consistently ranked as top-10 in Europe and top-20 in the world according to international university rankings. Edinburgh is the capital of Scotland, with a handsome historic city center, stunning natural beauty and a vibrant cultural life.