

DPhil studentship in Experimental Soft Matter

Title: Fluctuations in microfluidic and nanofluidic systems

Supervisor: Professor Alice Thorneywork

Start date: 1st October 2025

Applications are invited for a **DPhil studentship in Experimental Soft Matter** available from October 2025, to work under the supervision of **Professor Alice Thorneywork** in the Physical and Theoretical Chemistry Laboratory at the University of Oxford.

Research in the Thorneywork group focuses on the development of experimental model systems built using soft matter and nanofabrication techniques. In particular, we draw together results from both mesoscale systems, built from colloids and microfluidics, and nanoscale systems, involving nanopores and DNA nanotechnology, to identify universal behaviours across length scales. Importantly, elucidating the structural and dynamic properties of these highly controlled experimental models allows us to better understand analogous behaviours in more complex, molecular level systems. Recent work has explored signatures of potential landscapes in particle transport, probed polymer adsorption at the single molecule level from ionic current measurements, and identified novel methods to measure self and collective dynamics by simply counting particles in images.

The successful candidate will join a wide-ranging research program exploring fluctuations in molecular transport processes. This problem is central to the development of synthetic nanoporous materials with controlled transport properties, which are key components in many emerging nanotechnologies. More information can be found on the group website:

<https://thorneyworklab.web.ox.ac.uk/home>

The candidate is expected to have a strong interest in physical chemistry, particularly soft matter chemistry/physics and statistical mechanics. Applicants should have, or be expecting to obtain, a first or upper second-class Masters honours degree in chemistry, physics, or a related discipline.

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 £19,237 p.a.) for 3 years. Please note the eligibility criteria set out by the UKRI at:

<https://www.ukri.org/what-we-do/developing-people-and-skills/esrc/funding-for-postgraduate-training-and-development/eligibility-for-studentship-funding/>

Candidates should submit a formal application for DPhil in Chemistry via the Oxford online application system:

<https://www.ox.ac.uk/admissions/graduate/applying-to-oxford>

<https://www.ox.ac.uk/admissions/graduate/courses/dphil-chemistry>

Please quote **AT/Chem/2025** under 'Departmental Studentship Applications'.

Application deadline: **12.00 noon UK time on Wednesday 29th January 2025**

Queries relating to the application and admission process should be directed to:

graduate.admissions@chem.ox.ac.uk; tel.: +44 (0) 1865 272569.

The Department of Chemistry holds the Athena SWAN Silver Award, and the Thorneywork group is dedicated to promoting diversity, equality, and inclusion.