DPhil studentship in Polymerisation Catalysis
Title: Mechanistic Investigations and New Catalysts for CO_2 Copolymerisation
Supervisor: Professor Charlotte Williams
Start date: 1st October 2027

Applications are invited for a **DPhil studentship in Polymerisation Catalysis** available from October 2027, to work under the supervision of Professor Charlotte Williams in the Department of Chemistry at the University of Oxford.

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 £21,805 p.a.) for 3 years.
Please see: https://www.ox.ac.uk/students/fees-funding/fees/status for more information.

Research in the Williams group centres around the utilisation of catalysis for the synthesis of sustainable materials from oxygenated polymers through controlled polymerisation processes. Our catalysis is versatile, enabling the consumption of CO_2, as a feedstock with other cyclic monomers, in ring opening copolymerisations as well as accessing ring opening polymerisations of cyclic esters and cyclic carbonates. The resulting high-performance polycarbonates and polyesters have a range of applications including coatings, construction, adhesives, and formulations. The group work to gather insights and improve the processes across the polymer lifecycle, from synthesis, materials processing and reprocessing, and chemical recycling.

This research project will focus on catalyst innovation for polymerisation processes and materials analysis. The project will include catalyst synthesis, kinetic and thermodynamic analysis of the polymerisation performance, and detailed analysis of structure-performance relationships. Work will include organic synthesis of ligands, synthesis and thorough characterisation of inorganic catalysts (through NMR, MS, solid state techniques, XRD etc), polymerisation testing, investigations to probe the details of the catalytic processes, and materials testing.

Candidates with a first-class or strong upper second-class undergraduate degree in Chemistry or a closely related subject are encouraged to apply. Prior research experience (such as a Masters research project or equivalent) in a synthetic inorganic/organic chemistry laboratory is essential, as is a strong commitment to research and willingness to learn new skills. The successful applicant will be based in the Chemical Research Laboratory, Oxford.

Candidates should contact Professor Charlotte Williams (charlotte.williams@chem.ox.ac.uk) before submitting a formal application for DPhil in Chemistry via Oxford online application system:
https://www.ox.ac.uk/admissions/graduate/application-guide
https://www.ox.ac.uk/admissions/graduate/courses/dphil-chemistry

Please quote **CW/Chem/2027** under 'Departmental Studentship Applications'.

Application deadline: **12.00 noon UK time on Wednesday, 6th January 2027.**

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 Williams group is dedicated to promoting diversity, equality and inclusion.