Synergistic Experimental and Data-driven Catalyst Development for Sustainable Synthesis

The Thomas Group in collaboration with GSK and Dr Ephrath Solel Moroshko are now recruiting a motivated PhD student to develop a new method for the discovery and application of sustainable catalysis. This PhD will merge computational chemistry and data analytics with experimental main-group catalysis development. A 3-month placement at GSK Development Chemistry (Stevenage, UK) is expected to form part of this PhD.

This 4-year, fully-funded studentship is only open to candidates satisfying EPSRC residency Criteria, see: https://www.ukri.org/councils/esrc/career-and-skills-development/funding-for-postgraduate-training/eligibility-for-studentship-funding/#contents-list.
Funding covers tuition fees, an annual stipend (starting at £19,237 per annum), and costs associated with placement, consumables and travel.

Project Summary
This project will combine computational and experimental chemistry to introduce a data-driven approach to main-group and sustainable catalysis discovery and development. Synthetic organic/inorganic chemistry (including catalyst SAR, and mechanistic studies) will be complimented by computations and data analyses (including DFT calculations, machine learning and artificial intelligence) to expedite catalysts discovery, optimisation and application to pharmaceutical processes.

References
Diastereoselective, Catalytic Access to Cross-aldol Products Directly from Esters and Lactones A. M. González, K. Nicholson, N. Llopis, G. S. Nichol, T. Langer, A. Baeza, S. P. Thomas *Angew. Chem. Int. Ed.* **2022**, e2022095.

The successful applicant will have the option to join the Edinburgh Catalysis Group (ECG) which encompasses research groups across a variety of areas of contemporary catalysis including metal catalysis, organocatalysis, supramolecular catalysis, main-group catalysis, biocatalysis and mechanistic studies. ECG students will receive training in a range of fundamental techniques across catalysis with additional skills developed through participation in group meetings, problem classes and wider School and University activities, such as the annual Joseph Black Research Conference and Firbush Activity Centre Residential Courses

Informal enquiries should be directed to Professor Stephen Thomas or Dr Ephrath Solel Moroshko.

How to apply
The initial application (including cover letter and CV) should be directed to:
Professor Stephen Thomas and/or Dr Ephrath Solel Moroshko, School of Chemistry, University of Edinburgh, Edinburgh EH9 3FJ, UK. Email: stephen.thomas@ed.ac.uk, Ephrath.Solel@ed.ac.uk.

The position will remain open until filled; prompt applications are encouraged.

Important
Before submitting your cover letter and CV, please complete the online School of Chemistry Equality, Diversity and Inclusion Form, entry 2025-26.

The form will automatically generate a unique 'Response ID number' that you must include in your cover letter.

Equality and Diversity
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. For further information, please see our University Initiatives website:
https://equality-diversity.ed.ac.uk/inclusion/family-and-carer