



Bond Activation with Main Group Bimetallic Bonds

A PhD studentship is available in the group of Dr Stephanie Urwin (School of Chemistry, The University of Edinburgh; <https://www.chem.ed.ac.uk/staff/academic-staff/dr-stephanie-j-urwin>). The studentship is fully funded for 42 months by the University of Edinburgh and covers tuition fees and an annual stipend (starting at £18,622 per annum) for a candidate satisfying EPSRC residency criteria. <https://www.ukri.org/councils/esrc/career-and-skills-development/funding-for-postgraduate-training/eligibility-for-studentship-funding/#contents-list>

Project Summary

Many catalysts feature rare elements such as rhodium or iridium. Replacing these expensive elements, with Earth abundant metals in just a few bond-forming processes will radically change catalysis, reducing costs and making chemical synthesis more sustainable. Abundant light main group metals are restricted to a single oxidation state without a significant input of energy or kinetic intervention. It follows that redox-style catalysis is not currently reported for such elements, which this project seeks address using bimetallic cooperation. In this project you will prepare unprecedented bimetallic E-E' bonds between light s- and p-block metals (E/E' = Mg or Al) and investigate bond-forming catalysis enabled by the main group bond. Knowledge of synthetic inorganic chemistry is required and some experience with air- and moisture sensitive techniques is preferred but not essential.

In the first instance, the initial application (including cover letter and CV) should be directed to: Dr Stephanie Urwin, School of Chemistry, University of Edinburgh, David Brewster Road, Edinburgh EH9 3FJ, UK. Stephanie.Urwin@ed.ac.uk

The position will remain open until filled.

IMPORTANT

Before Submitting your cover letter and CV, please complete the online [School of Chemistry Equality, Diversity and Inclusion Form 2024](#).

The form will automatically generate a unique “Receipt 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. See our University Initiatives website for further information. University Initiatives website: <https://www.ed.ac.uk/equality-diversity/help-advice/family-friendly>