



Bringing Palladium Chemistry into the Biocatalytic Toolbox.

A PhD studentship is available in the group of Dr Amanda Jarvis (School of Chemistry, University of Edinburgh, <https://www.chem.ed.ac.uk/staff/academic-staff/dr-amanda-jarvis> and <https://www.amandajarvis.co.uk/>

The studentship is fully funded for 42 months by the University of Edinburgh and covers tuition fees and an annual stipend (starting at £19,237 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

The project will build on ongoing work within the Jarvis group looking at designing novel biocatalysts containing palladium active sites. Palladium chemistry is very well-established in organic synthesis and offers mechanistically distinct reactions from those found in nature. However, reactions such as C-H functionalisation and cross-coupling are hard to carry out with selective regio- and stereochemistry using small molecular catalysts. By using protein scaffolds to control substrate binding, this project will develop selective catalysis for these reactions which work under benign condition improving the sustainability of palladium catalysis.

The project is ideal for a student who is passionate about the chemical biology interface, and how it can be exploited to improve the sustainability of chemical reactions and contribute to a greener future.

Training will be provided in molecular biology (growth, expression and purification of proteins, and subsequent genetic optimisation via either site-directed or random mutagenesis), structural biology and bioinorganic chemistry (understanding metal binding of the proteins using methods such as NMR, UV-vis, crystallography), and in the organic chemistry needed for to support the project (substrate synthesis, catalytic testing). The student will be part of a cohort of students within the Edinburgh Catalysis Group (ECG) which organises academic and social activities to foster an inclusive and collegial catalysis community.

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

The position will remain open until filled. A closing date may be added at a later date.

References

R. C. Brewster, E. Klemencic, A. G. Jarvis, *J. Inorg. Biochem.* **2021**, *251*, 111317.

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>