Precursors for sustainable next-generation touchscreen devices

MSc by Research (MRes) opportunity in the Pike group

**Funding covers all university fees (home (UK) students only)**

Are you finishing your 3rd year of undergraduate studies and interested in a research-based master's year (with no fees to pay)?

The Pike group are looking for an enthusiastic student to join our research team in Oct 2023 (but with a flexible start date) for a 1-year research project. The Pike group study the photochemistry and reactivity of inorganic molecules and metal oxide materials.1–3 The master's by research course is a research only degree, without exams or taught modules. At the end of the year the student will write a research thesis on their project.

**Project Outline:** Transparent conducting oxides are enormously important for modern society, with applications in touch screen displays and solar panels (>100 bn market value). Despite this, commercialised technologies rely on the rare and expensive element indium.4 Therefore, there is an immediate need for transparent conducting materials built from abundant and low-cost elements, especially for scale-up of solar technologies. This project will explore novel molecular inorganic precursors which can be used to deposit of sustainable, next-generation transparent conducting oxides. The student will learn skills in molecular inorganic synthesis, X-ray crystallography and materials synthesis and characterisation during this exciting project.

Seb is a Royal Society University Research Fellow, in joining the group you will be a crucial member of the research team and will work closely with Seb. We work in the MAS building in a sociable lab. We also regularly join other research groups for Solid-State Chemistry Group meetings. If you have any questions, please contact Seb by email at sebastian.pike@warwick.ac.uk or drop by for a chat in MAS 4.11. Find out more at [https://warwick.ac.uk/pikegroup/](https://warwick.ac.uk/pikegroup/)