Our group is interested in the discovery and development of activation modes that unlock new chemical reactivity concepts. We are particularly interested in how catalysts can be used to instil and control these novel reactivity properties. We use these new synthesis strategies to make complex molecules that can be used to study biological systems with the aim of treating disease. Research in our group includes:

(a) C–H activation of aliphatic molecules with transition metal catalysts
(b) New enantioselective transformations using high oxidation state copper catalysts
(c) New strategies for protein functionalization
(d) High Throughput Platforms for Discovery and Development of New Reactions
(e) The synthesis of biologically active complex molecules

A range of projects are available across all of these areas. All projects will provide you with solid training in both basic and state-of-the-art synthetic techniques. A selection of references covering some of our work in these areas in addition to important background.


Up to three projects are available