Dr James Wilton-Ely (Catalysis, Biomass Breakdown & Sensing)

- Dithiocarboxylates based on NHCs
  \[
  \text{L}_n\text{M} - \text{S} - \text{A} - \text{R'} \quad M = \text{Rh, Pd, Au} \\
  A = S, O, \text{NPh} \\
  R' = \text{Pr}, \text{Cy}, \text{Mes}, \text{Dip}
  \]
  Also catalysis: Selective C-H oxidative functionalisation

\[\text{[Pd]}  \quad 0.1 \text{ mol\%} \quad \text{ROH} \quad \text{PhI(OAc)}_2 \]

Catalytic breakdown of biomass in ionic liquids

Sensing of CO in air and in cells
Immobilised and magnetically recoverable catalysts for ‘click’ reaction

Functionalised nanoparticles

Multimetallic and nanoparticle-based MRI contrast agents

\[
[Ru] = [Ru(dppm)_2]^+ 
\]