**Metal Organic Framework Materials for Catalysis**

The Li research group is interested and engaged in developing new and functional materials for energy (particularly renewable and sustainable energy) related applications, including photovoltaics, solid-state lighting, thermoelectrics, batteries, catalysis, gas storage, separation and sensing).

One of the current focuses of Li group is on the design, synthesis and optimization of functionality of metal organic frameworks (MOFs) that are promising for use either as solid support materials or as active catalysts. MOFs demonstrate numerous advantageous features compared with some other materials for catalysis. Their crystal structures (for example, dimensionality, framework connectivity, and topology), compositions (e.g. the type and form of metals and ligands) and pore properties (e.g., pore size and shape, pore volume and the chemical functionality of the pore walls) can be deliberately and systematically tailored to enhance targeted catalytic activity and to achieve improved performance.