

# One-page expertise description

Organisation	UCL
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Type of partner	University
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## Topic(s) of interest:

[LCE-11-2014](#) Developing next generation technologies for biofuels and sustainable alternative fuels

## Headline:

Heterogeneous catalysis: preparation, characterization and evaluation of heterogeneous catalysts, including, supported nanoparticles, porous (mixed)-oxides, immobilized enzymes, etc.

## Potential contribution:

We propose to screen new catalytic formulations against the needed reactions of biomass conversion (a priori all kinds of biomass are possible; gas phase and liquid phase; batch or flow reactors).

Our contribution can include

- \* innovative **catalyst preparation** methods or screening of existing catalyst libraries
- \* **advanced characterization** of the catalyst properties (hydrothermal stability, texture, structure, surface chemistry, etc.)
- \* **evaluation** through lab-scale microreactors. .

Deliverables:

- identification of new efficient catalysts for the targeted reactions
- precise understanding of the critical properties that dictate the catalyst activity
- proof of concept for new reactions
- comparative studies to benchmark new catalysts/processes
- kinetic studies
- mechanism elucidation