Research project and supervisor team

Supervisory Team	Dr. Elena Konysheva Dr. Kam Loon Fow
Short introduction & description of research project	Climate change has forced modern research to be directed towards the investigation of alternative, renewable sources and green approaches for value-added fine chemicals production. Thermochemical conversion of biomass through pyrolysis can be considered as one of important routes in production of value-added chemicals from renewable sources. Non-catalytic pyrolysis of biomass is a complex process resulting in the formation of different groups of organic compounds. The application of a catalyst is required to direct the formation of targeted compounds through facilitation of specific reaction pathways. This multidisciplinary project focuses on the development of sustainable and cost-effective catalysts for conversion of biomass to value-added fine chemicals. A candidate should have BSc/MSc/MRes in Chemistry or BEng/MEng/MRes in Chemical Engineering. Previous experience in using the following techniques will be beneficial: X-ray powder diffraction (XRD), thermogravimetric analysis (TGA), Transmission and Scanning electron microscopy, X-ray photoelectron spectroscopy (XPS), Mass-spectrometry in combination with gas-chromotography(MS-CG); IR- and Raman spectroscopy as well as ability to perform DFT calculations.
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