Unconventional hydrocarbons have changed the world energy map. Assessing the new opportunities provided by unconventional hydrocarbon reservoirs requires rapid and effective geochemical techniques. Imperial College London is the home of several novel geochemical assessment techniques that provide the information needed to appreciate the economic viability of unconventional shale oil and shale gas targets.

The PhD project will investigate the use of thermal extraction to identify the most valuable horizons in shale reservoirs and to predict the likely recovery. A range of existing shale samples will be utilized and new shales and cores will be collected. The thermally extracted hydrocarbons will be characterised using flame ionization detectors, mass spectrometers and infrared spectrometers. The PhD project will place the student in a position to work in the petroleum industry or petroleum related research areas in academia.

The research will use equipment in the Imperial College Organic Geochemistry Laboratories (right). Full training will be provided. The project would suit a candidate with enthusiasm for petroleum geochemistry and a background in Earth Science, Chemistry or a subject that develops similar skills.

Contact: Professor Mark Sephton (m.a.septon@imperial.ac.uk) for more information. Details of how to apply can be found at: http://www.imperial.ac.uk/study/pg/apply/how-to-apply/