

## **Understanding how the liver heals: the pathophysiology of sepsis induced liver failure**

**Theme: liver surgery and regeneration**

**Keywords: liver regeneration; JNK signalling; sepsis**

**Fee band: laboratory-based research**

**Supervisors: Professor Dileep N Lobo, Dr John Hammond & Dr Salvatore Papa**

Liver resection is the first line treatment for patients with primary and secondary liver cancer. In the majority of patients this can be performed safely, but in a subgroup of patients the liver fails to regenerate and a condition called post-resection liver failure develops. Post resection liver failure is the major cause of death after liver resection, its pathophysiology is poorly understood and there are a limited number of treatments available when it develops.

This project investigates how the liver heals after liver surgery. It is based in the Division of Gastrointestinal Surgery at the University Hospital Nottingham and the Institute of Hepatology in London. The project will use transgenic models to explore signalling pathways involved in liver regeneration and determine the impact of sepsis on rates of liver regeneration. The candidate will learn a range of laboratory techniques including protein, mRNA and DNA analysis, histology, immunohistochemistry and electron microscopy in a supportive research environment.

Successful applicants will be jointly supervised by Professor Dileep Lobo, Dr John Hammond and Dr Salvatore Papa (Institute of Hepatology, London). Applicants should have, or expect to obtain, a first or 2:1 UK honours degree (or equivalent) in a health care/basic science related subject and have an interest in conducting translational research in collaborative project with surgeons and basic scientists.

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