STUDENT BURSARY

ASHLEY RETCHLESS

Project: Lymphocytes as Vehicles for Hepatitis C Virus Transmission to the Liver

'Personally, this Falk/Core award has given me more confidence that I am capable of contributing to medical research and represents something that I am very proud to have on my academic CV when pursuing further post-graduate academic avenues in the future.

'I've learnt so much this year and my eyes have been opened to the world of clinical research. My intercalated year has been thoroughly enjoyable and I am truly grateful for the experience.'

Ashley Retchless is currently intercalating in a degree in Clinical Science. He will return to medical school In Birmingham in the next academic year.

"As I've progressed through medical school, my interest in hepatology has grown and it is a specialty that I am hoping to pursue a career within in the future, ' says Mr Retchless. 'Consequently I'd known from the start of my intercalation application process that I'd love to take part in a hepatology-related project and this project represented a great opportunity.

'Hepatitis C virus (HCV) infection affects an estimated 3% of the global population and is a leading cause of liver cirrhosis and hepatocellular carcinoma. Newer second-generation antiviral therapies are yielding impressive results, however their high cost limits their wide accessibility.

'Recent work described that, in addition to infecting hepatocytes directly, HCV can also be transmitted to hepatocytes by lymphocytes in a process called trans-infection.

'We have since developed a high-throughput protocol whereby lymphocytes isolated from chronically-infected HCV patients are used in trans-infection assays to transmit authentic HCV to a hepatoma cell line in vitro.

'We have demonstrated that the trans-infection of patient-derived virus is quantifiable and that this process is susceptible to inhibition in the presence of either interferon-alpha or HCV-specific neutralising antibodies.

'Lymphocyte-mediated trans-infection of HCV represents a novel technique for the successful culture of patient-derived HCV in vitro - an achievement that has not previously been possible. This could revolutionise current study of hepatitis C and pave the way for future research into more efficient and affordable treatments.'

Mr Retchless' supervisor Dr Zania Stamaki states:

'Ash has been a fantastic addition to our team in the Centre for Liver Research here at the NIHR Biomedical Research Unit for Liver Disease. Intelligent, hard-working and a fast learner, he was quickly handling difficult trans-infection assays in Category III containment level conditions with no supervision.

'Ash has a long-standing interest in gastroenterology and infectious disease and this project was soon tailored to his talents.

'Ash demonstrated that he had a keen interest in the basic science sides of his project as well as its clinical applications. He is currently co-authoring an invited review for World Journal of Gastroenterology in hepatitis C biology. Ash also presented the non-patent-sensitive parts of his work in the British Society for Immunology meeting on Leukocyte Migration in February 2015 in Birmingham.

'He has been an asset to our team'.