



Project: Morbidity and Mortality Associated with Cytomegalovirus Infection in Liver Transplant Recipients – Structural Characterisation of a Putative Cytomegalovirus Drug Target

'As students our contribution to research can often be overlooked. So it is great that the Dr Falk Core awards recognise student achievement in research and winning the Award has definitely given me confidence in my work. I would certainly consider working in research after graduation and it would be very exciting to continue the work with LUNA at some stage.'

Fatima Ali has just completed an integrated BSc in Clinical Sciences at University College London. She will begin her 4th year at medical school in September also at UCL.

'I really enjoyed endocrinology and hepatology at medical school and I feel very passionate about transplant medicine and the need to make it safer for recipients.

'Human Cytomegalovirus (HCMV) is one of the main causes of morbidity and mortality in liver transplant as it can be reactivated when the immune system is badly compromised - immune suppression is vital in the transplantation process and it is highly prevalent within the population. LUNA is a protein which is produced in cells infected with HCMV and it is surmised that LUNA is implicated in the reactivation of HCMV. The overall aim of the research was attempting to find a way to 'switch off' the activity of this protein.

'My project was working towards building a 3D structure of the LUNA protein in order to better find a way in which therapies can be used to de-activate it.

'My work was on perfecting an expression system within bacteria, where the bacteria produce the LUNA protein. This protein can be extracted and purified to produce large quantities of LUNA which we shall then crystallise and use X-Ray to give us a diffraction pattern on which to build the 3D model.

'It is a long and complicated process but a potential game changer for the field of transplant medicine which is an incredibly exciting thing.

'I had never really done much lab work before but during my time working on this project I learned a whole range of lab and research skills and I am much more confident about reading research papers. These will stand me in good stead as I progress through my medical career.'

Ms Ali's supervisors Dr Alun Coker and Dr Matthew Reeves comment:

'Fatima is an extremely bright individual who has grasped this project with great enthusiasm. She has quickly mastered the technical laboratory skills necessary for successfully optimising protein expression and has developed a good understanding of both the background to the project and the theoretical aspects of the experimental work.

'Although the focus of Fatima's project is on the protein purification she has also maintained her links with the molecular virological aspect of the work and thus appreciating the multi-disciplinary aspects of these studies.'