

THE LIVER GROUP
CHAIRMAN'S REPORT
FOR THE YEAR ENDING 31 DECEMBER 2012

My Chairman's report last year announced the tremendous news that the Wellcome Trust had awarded The Liver Group research team at UCL a Translational Technology award to take our work on the bio-artificial liver machine forward. The basis for the award was our last decade's work in characterising and optimising enhancing the performance of human liver-derived cells when they are cultured in the innovative three-dimensional culture system we devised, which had culminated in a proof-of-principle experiment performed with our colleagues in South Africa in a large animal model. The award – for just over two million pounds – is to produce a fully designed and fabricated system, commensurate with the complex regulations governing 'good manufacturing practice'; to provide a fully documented and quality controlled process; and to demonstrate its safety in use in further animal experiments. With that achieved, we can prepare a dossier of information, in great detail, to present to the appropriate UK and European regulatory bodies as the precondition for approval for a clinical trial in man.

The three year funding period commenced at the end of April, although it is not money that will come to the Charity, but to the University for our academic work. During the year the achievements – essentially the milestones by which the Wellcome will judge our progress – included extensive characterisation of the cell-line we used, the manufacture to our specification of a larger, more automated machine for encapsulating cells in the jelly-like alginate material in which we grow them, and refinement of the processes of alginate purification – the latter an ongoing collaboration with our colleagues in Hungary. We make monthly reports to the project manager supported by the grant, and liaise with the Wellcome Trust with three-monthly meetings presenting the scientific progress.

Outside the Wellcome Grant, and in collaboration with colleagues in the Department of Surgery at UCL, we have progressed our work on freezing cells in alginate beads (incidentally graduating one of our PhD students with the project), and are now liaising with two industrial enterprises who have an interest in freezing tissues and cells of all types, and see our system as providing a potentially extremely useful technique for preserving living biological material until needed. This work – potentially an enormous advance of general application, exemplifies very clearly the path that our research and indeed so much university research takes nowadays. Ideas have to be generated, and pilot experiments performed; and then at that stage – which may take many months to some years - it becomes possible to attract funds from major grant-giving bodies or in some cases industry. The initiative I mentioned last year – a novel module developed as a 'bolt-on' to our bio-artificial liver device, to reduce the incidence of infection and sepsis in patients with liver failure, remains in this stage; the results are extremely encouraging, and we hope to raise major funding for this. In the meantime, for this year past and indeed for the future, we remain both greatly indebted, and grateful, to our supporters who do so much to make our work possible.

A handwritten signature in black ink, appearing to read 'H. Hodgson', with a small dot at the end.

Humphrey Hodgson
Chairman