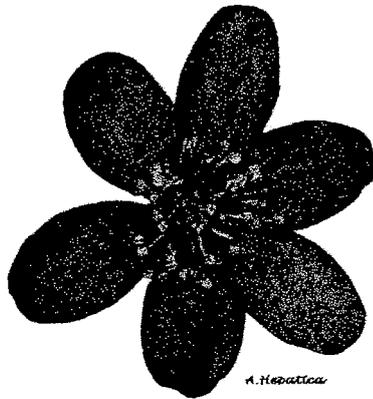


Charity Registered number: 1024533

**THE LIVER GROUP**  
**ANNUAL REPORT AND ACCOUNTS**  
**FOR THE YEAR ENDED 31 DECEMBER 2011**



## THE LIVER GROUP

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**THE LIVER GROUP**  
**ASSOCIATION INFORMATION**  
**FOR THE YEAR ENDING 31 DECEMBER 2011**

**Trustees:** Sarah Bates  
David Clifford  
Ciáran Devane (Co-opted)  
Sue Eggleton  
Kay Glendinning MBE  
Prof Humphrey Hodgson FRCP, F Med Sci  
Prof David Kerr CBE  
Prof Sir Roger Penrose OM FRS  
Clare Selden

**Principal office:** UCL Institute of Liver and Digestive Health - The Liver Group  
Royal Free Hospital Campus  
University College Medical School  
Upper Third Floor  
Rowland Hill St  
Hampstead  
London NW3 2PF

**Charity registration number:** 1024533

**Bankers:** HSBC  
Oxford Circus Branch  
London W1A 1EZ  
  
CCLA Investment Management Ltd  
80 Cheapside  
London  
EC2V 6DZ

**Auditors:** Andrew Wilson  
Simpson Wreford & Co  
Wellesley House  
Duke of Wellington Avenue  
Royal Arsenal  
London SE18 6SS

**THE LIVER GROUP**  
**TRUSTEES' REPORT**  
**FOR THE YEAR ENDING 31 DECEMBER 2011**

The Trustees submit their annual report and the audited financial statements for the year ended 31 December 2011. The Trustees have adopted the provisions of the Statement of Recommended Practice (SORP) "Accounting and Reporting by Charities" issued in 2005 in preparing the annual report and financial statements of the Charity which have been prepared under section 132 of the Charities Act 2011. The organisation is a Charity constituted under a Trust Deed dated 28 May 1993.

The administrative information set out on page 1 forms part of this report.

**Objectives and activities**

The objects of the charity are:

- i) The relief of patients suffering from disease of the liver and genetic defects affecting the liver
- ii) The promotion of research into the causes and treatment of diseases of the liver on terms that the results of such research are published.

The principal activity of the Charity currently is the project being conducted to develop an artificial liver. The artificial liver project is being carried out with the funds raised for the continuing "Liver for Life" Appeal.

The Board of Management comprises nine Trustees, eight elected, one co-opted. The members are able to draw on relevant board experience in board deliberations. The Board is collectively responsible for the competent management of the organisation in accordance with its objectives which are set out in the Trust Deed. The Board meets twice a year to monitor the organisation's strategy and activities.

The Charity does not have any employees and its day to day activities are carried out by University College London under the supervision of two Trustees. If the need arose to appoint a new trustee the remaining trustees would identify and appoint an appropriate person. The current Trustees are responsible for the induction of any new trustee which involves making them aware of the Trustees' responsibilities, the governing documents, administrative procedures and the history and philosophical approach of the charity. The Trustees have agreed a position that should any profits arise from the intellectual property in the research being carried out by the team, and in conjunction with the various other parties involved in that work, the Charity may/would be entitled to up to 50% of such amounts.

**Achievements and performance**

- Research output, intellectual property gained and achievement of milestones towards moving the Bioartificial Liver project from the bench to the bedside.
- Administrative charitable activities are limited to fundraising for the research endeavour. This is achieved by written applications to known grant giving organisations, small and large companies via the CEOs or other appropriate individual or wealthy individual donors. The Charity also has a web-page with an opportunity to donate via CAF. £39,846 (2011 £140,597) was raised in this financial year from donations; other income was generated from interest earned on cash deposits.
- Indicators of achievements are success in the research aims and, in addition, the total funds raised in a particular year. These rarely exceed our expenditure for the year.

**THE LIVER GROUP**  
**TRUSTEES' REPORT**  
**FOR THE YEAR ENDING 31 DECEMBER 2011**  
**(Continued)**

- The Charity is one of many sourcing the same research funding; given the difficult position most UK universities find themselves in, there is increasing competition for funds. Until government resources fill the gap between the costs and current funding of medical research the Charity's efforts will become more difficult each year. Notwithstanding this difficult climate, the Charity continues to explore every avenue to increase funding from grants and donations.

**Financial review**

The organisation is funded mainly by donations. They are a mixture of individual, corporate and charitable trust donations.

The majority of funds are spent on paying the salaries of researchers, as well as the required consumables and equipment for the research to continue. As evidenced by the publications, the Charity's current aim to develop a bioartificial liver machine (BAL) has moved forward from the medium scale to human scale. The following period will see a scale up towards clinical scale for this machine. Each of these steps is associated with a considerable increase in research personnel, consumable and equipment expenditure.

Except for such funds as the Trustees consider prudent to maintain for the purpose of management and administration of the Charity for the foreseeable future, all unrestricted funds are applied for the purposes of the "Liver for Life" project and the general charitable objects of the Charity.

As at 31 December 2011 the unrestricted fund had a committed surplus of £417,173 (2010 – £527,491), and the restricted fund has a surplus of £36,247 (2010 - £50,896). The Charity's unrestricted fund is already committed to existing research and PhD students and their necessary consumables.

As the bioartificial liver project nears clinical scale and development for clinical trial, the costs are rapidly increasing necessitating considerable further fund-raising.

**Risk management**

The Trustees confirm that there are ongoing processes for identifying, evaluating and managing significant risks faced by the organisation.

**Public benefit**

All the donations made by the Charity were in furtherance of the Charity's long term objective of providing the relief of patients suffering from diseases of the liver and genetic defects affecting the liver, and promoting research into the causes and treatment of liver disease. The Charity has complied with section 17 of the Charities Act 2011 having due regard of the public benefit guidance published by the Commission.

**Plans for future periods**

The Charity aims to continue its medical research goals, at a pace commensurate with funding opportunities. With appropriate funding it sees the bioartificial liver machine project reach the clinical trial assessment within five years.

**THE LIVER GROUP**  
**TRUSTEES' REPORT**  
**FOR THE YEAR ENDING 31 DECEMBER 2011**  
**(Continued)**

**Statement of Trustees' responsibilities**

The Trustees are responsible for preparing the Trustees' Report and the financial statement in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The law applicable to charities in England & Wales requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charity and of the incoming resources and application of resources of the charity for that period. In preparing these financial statements, the trustees are required to:

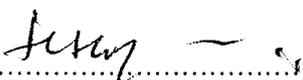
- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

The trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charity and to enable them to ensure that the financial statements comply with the Charities Act 2011, the Charity (Accounts and Reports) Regulation 2008 and the provisions of the trust deed. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

**Auditors**

A resolution to re-appoint Simpson Wreford & Co as auditors will be proposed at the next AGM.

The report was approved by the Trustees on 12-9-12

and signed on their behalf by..........

**Humphrey Hodgson**  
**Trustee**

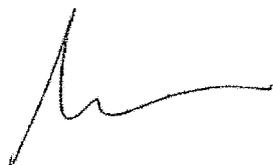
**THE LIVER GROUP**  
**CHAIRMAN'S REPORT**  
**FOR THE YEAR ENDING 31 DECEMBER 2011**

2011 was for the Charity a really important year – a milestone (a word I shall also use later on) in our drive to create an effective device to save the lives of patients with severe liver disease, the bio-artificial liver.

I mentioned in my report last year that a key step would be to gain a major tranche of funding that would enable us to specify and manufacture the bioreactor that comprises the bio-artificial liver to the stringent quality and regulatory standards that will be necessary for the device to be used in man. We are all absolutely delighted that in September last year we learnt that our application to the Wellcome Trust –for a Translational award was successful, and we were awarded just over two million pounds over three years to do this work. (the grant being made to our host organisation UCL). The formal start of the grant is after various contractual issues and ‘due diligence’ have been finalised on the proposal, so that the funds come on stream in 2012. The grant - because it is no longer an application for ‘blue-skies’ research, but to translate a concept into reality, is subject to regular oversight during the three years, against agreed milestones of progress. The work will largely be performed UCL, but also is being performed in collaboration with the University of Miskolc in Hungary, and in the last year with our collaborators back at the University of Cape Town. Our team looks forward to the challenge of rising to the occasion, and certainly it will take a great deal of hard and dedicated work by the laboratory team.

I wish I could say that that was the end of our fund-raising drive – but that would be unwise! One of the highly desirable characteristics of a liver device is transportability, and our current design achieves this by a ‘cold-chain’ which can prolong the effectiveness of the cell cultures for up to 72 hours. Whilst this allows our approach to be feasible, so a working machine could be delivered to the bedside within that time frame to treat a patient with liver failure, a technique for an indefinite shelf-life would be greatly preferable. I mentioned last year that we began work on that, moving from simple approaches which can be used where there are only a few cells in a small volume of fluid, to the more complex processed that need to be developed for the large number of cells that our bioreactors. Also, we have developed a novel concept as a ‘bolt-on’ to our device, to reduce the incidence of infection and sepsis in patients with liver failure. This device could also be used in patients with septicaemia from any cause. As we have learnt from the main thrust of our activity, developmental work – to bring us to the stage when major funds such as those from the Wellcome can be earned – is both prolonged and expensive So we shall continue to fund-raise for the charity and the ‘Liver-for-life’ appeal.

I and all the trustees wish to express our immense gratitude to our supporters, without whom our work would not be possible; to our colleagues in the laboratory at UCL who have worked so hard to progress the project; and to our auditors. I must add my personal thanks to my fellow trustees for all their dedication and help.



Humphrey Hodgson  
Chairman

**INDEPENDENT AUDITOR'S REPORT**  
**TO THE TRUSTEES OF THE LIVER GROUP**  
**FOR THE YEAR ENDED 31 DECEMBER 2011**

We have audited the financial statements of The Liver Group for the year ended 31 December 2011 which comprise the Statement of Financial Activities, the Balance Sheet and the related notes. The financial statements have been prepared under the accounting policies set out therein and the requirements of the Financial Reporting Standard for Smaller Entities (effective April 2008).

This report is made solely to the Trustees, as a body, in accordance with Section 144 of the Charities Act 2011 and the regulations made under section 154 of that Act. Our audit work has been undertaken so that we might state to the charity's Trustees those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's Trustees as a body, for our audit work, for this report or for the opinions we have formed.

**Respective responsibilities of the Trustees and Auditors**

The Trustees' responsibilities for preparing the Annual Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice) are set out in the Statement of Trustees Responsibilities.

We have been appointed under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that act. Our responsibility is to audit and express an opinion on the financial statements in accordance with relevant legal and regulatory requirements and International Standards on Auditing (UK & Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

**Scope of the audit**

An audit involves obtaining evidence about amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the charity's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the trustees; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the Trustee's Report to identify material inconsistencies with the audited financial statements. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

**Opinion on financial statements**

In our opinion the financial statements:

- give a true and fair view of the state of the Charity's affairs as at 31 December 2011 and of its incoming resources and application of resources in the year then ended, and
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (applicable to Smaller Entities); and
- have been prepared in accordance with the Charities Act 2011.

**INDEPENDENT AUDITORS' REPORT**  
**TO THE TRUSTEES OF THE LIVER GROUP**  
**FOR THE YEAR ENDED 31 DECEMBER 2011**  
(Continued)

**Matters on which we are required to report by exception**

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you, in our opinion:

- the information given in the Trustees' Annual Report is inconsistent in any material respect with the financial statements; or
- sufficient accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

*Simpson Wreford & Co*

SIMPSON WREFORD & CO  
Statutory Auditors  
Wellesley House  
Duke of Wellington Avenue  
Royal Arsenal  
London SE18 6SS

Dated: *28.09.12*

**THE LIVER GROUP**  
**STATEMENT OF FINANCIAL ACTIVITIES**  
**FOR THE YEAR ENDED 31 DECEMBER 2011**

	Notes	Unrestricted Funds £	Restricted Funds £	Total 2011 £	Total 2010 £
<b>Incoming resources</b>	2				
<i>Incoming resources from generating funds</i>					
Voluntary income		270	39,576	39,846	140,597
Investment income		3,684	-	3,684	2,679
<b>Incoming resources for the year</b>		<u>3,954</u>	<u>39,576</u>	<u>43,530</u>	<u>143,276</u>
<b>Resources expended</b>	3				
Charitable activities		111,339	54,225	165,564	183,702
Governance costs		2,933	-	2,933	2,750
		<u>114,272</u>	<u>54,225</u>	<u>168,497</u>	<u>186,452</u>
<b>Net outgoing resources for the year</b>		(110,318)	(14,649)	(124,967)	(43,176)
Transfers		-	-	-	-
<b>Fund balances at 1 January 2011</b>		<u>527,491</u>	<u>50,896</u>	<u>578,387</u>	<u>621,563</u>
<b>Fund balances at 31 December 2011</b>		<u>417,173</u>	<u>36,247</u>	<u>453,420</u>	<u>578,387</u>

**THE LIVER GROUP**  
**BALANCE SHEET AT 31 DECEMBER 2011**

	Notes	2011 £	2010 £
<b>Current assets</b>			
Cash at bank and in hand		<u>551,357</u>	<u>695,675</u>
<b>Less: Creditors</b>			
Amounts falling due within one year	4	<u>(97,937)</u>	<u>(117,288)</u>
<b>Net assets</b>		<u>453,420</u>	<u>578,387</u>
 <b>Financed by</b>			
Unrestricted fund		417,173	527,491
Restricted funds	5	<u>36,247</u>	<u>50,896</u>
<b>Total funds</b>		<u>453,420</u>	<u>578,387</u>

These accounts have been prepared in accordance with the Financial Reporting Standard for Smaller Entities (effective April 2008)

Approved by the Trustees on 12/9/12

Signed on their behalf by.....Clare Selden.....

Clare Selden  
Trustee

**THE LIVER GROUP****NOTES TO THE FINANCIAL STATEMENTS****FOR THE YEAR TO 31 DECEMBER 2011****1. Accounting Policies****Basis of accounting**

The accounts have been prepared under the historical cost convention and in accordance with applicable Accounting Standards, the Charities Act 2011 and the Statement of Recommended Practice "Accounting for and reporting by Charities" (SORP 2005), and the Financial Reporting Standard for Smaller Entities (effective April 2008).

**Voluntary income**

Donations represent amounts received during the period and arise with the United Kingdom. Covenant and Gift-Aid income is included in gross attributable tax recoverable.

**Investment income**

Interest receivable is credited to income in the period in which it is earned and is included gross of attributable tax recoverable.

**Charitable activities**

Charitable activities are the research expenditure incurred on behalf of the Charity and recharged to The Liver Group by University College London (UCL). These are charged to the statement of financial activities (SOFA) on an accruals basis. This expenditure includes amounts paid for capital equipment and laboratory infrastructure which are regarded as expenditure in these accounts

**Governance costs**

Governance costs include those costs associated with meeting the constitutional and statutory requirements of the charity and include the costs related to the statutory audit.

**Allocation of overhead and support costs**

All overhead and support costs relate to governance costs and have been allocated as such (note 3).

**Liabilities**

Liabilities are recognised in the accounts where there is an obligation to transfer economic benefit.

**Fund accounting**

Total funds comprise the accumulated surplus or deficit on the statement of financial activities. Unrestricted funds are available for use at the discretion of the Trustees in furtherance of the general objectives of the Charity. Restricted funds are subject to specific restricted conditions imposed by donors. The purpose and use of these funds are set out in the notes to the accounts.

**THE LIVER GROUP**

**NOTES TO THE FINANCIAL STATEMENTS**

**FOR THE YEAR TO 31 DECEMBER 2011**

**Taxation**

The Charity is not liable to income tax on income derived from its charitable activities as it falls within the various exemptions available to registered charities.

The Charity is not registered for value added tax (VAT) and is therefore unable to reclaim the input tax it suffers on its purchases. Expenditure in the accounts is therefore shown inclusive of VAT where appropriate.

**2. Incoming resources**

	2011	2010
	£	£
<b>Voluntary income</b>		
Thriplow	-	5,000
The Coutts Charitable Trust	-	500
The Peter Stebbings Memorial Trust	29,826	50,000
J H Turner	-	50
Tom and Sheila Springer Charity	9,750	4,875
Stella Symons Charitable Trust	250	-
Garfield Weston Foundation	-	75,000
B A Reeves	20	-
CAF Bank	-	2,000
The Billingsgate Mission	-	1,250
The Oakdale Trust	-	1,000
Yorkshire & Clyde Bank	-	400
Bank of England	-	522
	<u>39,846</u>	<u>140,597</u>
<b>Investment income</b>		
Bank interest	<u>3,684</u>	<u>2,679</u>

**3. Resources expended**

	2011	2010
	£	£
<b>Charitable activities</b>		
Staff costs (employed on fixed term UCL contracts)	122,561	155,510
Research consumables and laboratory	<u>43,003</u>	<u>28,192</u>
	<u>165,564</u>	<u>183,702</u>

**Governance costs**

Auditors' remuneration (including VAT)		
Accounting	985	962
Audit	<u>1,948</u>	<u>1,788</u>
	<u>2,933</u>	<u>2,750</u>

The average weekly number of employees of UCL working for The Liver Group during the year was 4 (2010: 3). At the year end there were 4 employees of UCL working on The Liver Group research. In addition there were 3 PhD students paid a stipend under a 3 year studentship scheme. There were no employees with remuneration above £60,000 for the year ended 31 December 2011

None of the trustee's received any remuneration and their expenses reimbursed during the year amounted to £Nil (2010: £Nil)

**THE LIVER GROUP**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE YEAR TO 31 DECEMBER 2011**

**4. Creditors**

	2011	2010
	£	£
Accruals	2,755	2,703
Deferred Income	29,826	-
Amounts due to UCL	<u>65,356</u>	<u>114,585</u>
	<u>97,937</u>	<u>117,288</u>

**5. Restricted funds**

	Balance at 1 Jan 2011	Incoming Resources	Resources Expended	Transfers	Balance at 31 Dec 2011
	£	£	£	£	£
Billingsgate Christian Mission Charitable Trust Studentship	1,500	-	1,500	-	-
Peter Stebbings Memorial Trust	49,396	29,826	42,975	-	36,247
Tom & Sheila Springer Charity	-	9,750	9,750	-	-
	<u>50,896</u>	<u>39,576</u>	<u>54,225</u>	-	<u>36,247</u>

All restricted funds have arisen from donations received by the Charity from the donors detailed above.

The donation from Billingsgate Christian Mission Charitable Trust Studentship is for the use of a sandwich student.

The donation from the Peter Stebbings Memorial Trust was for staff and consumables over a 3 year period, the last donation was in 2010.

The donations from Tom & Sheila Springer Charity were towards the salary of K Lintern. Each fund is applied in accordance with the restrictions imposed.

**6. Other professional services provided by the auditors**

In common with many other charities our size and nature we use our auditors to prepare and assist with the preparation of the financial statements.

**7. Controlling Party**

The ultimate controlling party of the charity is the board of Trustees.

**THE LIVER GROUP**

**NOTES TO THE FINANCIAL STATEMENTS**

**FOR THE YEAR TO 31 DECEMBER 2011**

We are grateful to the following for donations to the “Liver for Life” Appeal:

Anonymous	Mr & Mrs Sutcliffe
Associated British Ports	N Smith Charitable Settlement
BAE Systems	New Brunswick Plc
Bank of England	Peter Stebbings Memorial Trust
Barclays Bank (Knightsbridge Limited)	Pfizer Ltd
Billingsgate Christian Mission Charitable Trust (The Fishmongers’ Company)	Pharmaceutical Brand Consultancy Int
Boots Plc	Price Waterhouse Plc
Bowring Plc	Racial Charitable Trust
Brian Wright Esq	Richard Wilkinson Esq
British Aerospace	Rio Tinto Plc
BS & IP Aynscombe	Robert Fleming Holdings Ltd
BTR Plc (Invensys)	Royal London Insurance Ltd
C E Health Plc	Rudolf Wolff & Co Ltd
CAF Bank	S&I Donald
Charles Littlewood Charitable Trust	Saddlers’ Company
Citybank	Schroders Plc
Clydesdale Bank/Yorkshire Bank	Seagrams Distillers Plc
Commercial Union	Securicor Plc (G4S)
Communis Plc	Smiths Industries
Conoco Philips	Societe Generale United Kingdom Charitable Trust
Cookson Group Plc	Special Trustees for Hammersmith & Acton Hospitals
Cooper Charitable Trust	Steel Charitable Trust
Council of Forte Trust Fund	Sunlife Assurance Plc (AXA Sunlife)
Courage Plc	The Bergqvist Charitable Trust
Coutts and Co	The Bowerman Memorial Trust
Coutts Charitable Trust	The Bryan Guinness Charitable Trust
D M Wilton	The Childwick Trust
Dako Limited	The Clothworkers’ Foundation
Economist Plc	The Dunhill Medical Trust
EJH Stephenson (Deceased) Charitable Trust	The Eranda Foundation
Friends Provident	The Fritton Trust
Glaxo Plc (GlaxoKlineSmith)	The Garfield Weston Foundation
Guardian Royal Exchange Plc	The Gerald Palmer Trust
HJ Heinz Co Ltd Charitable Trust	The Haberdashers Company
Hon C A Pearson’s Charity Trust	The Hamamelis Trust
Honeywell Plc	The Harnett Charitable Trust
IBJ	The John Ellerman Foundation
In Memoriam	The Mary Webb Trust
J H Turner	The Mercers Company
Jardine Insurance Services Ltd (JLT Insurance Brokers)	The Oakdale Trust
KPMG Pet Marwick	The Paul Balint Charitable Trust
Laing, London	The Penny in the Pound Fund Charitable Trust
Land Securities Plc	The Really Useful Group Ltd
Life Technologies	The Sobell Foundation
Lloyds TSB Bank Plc	The Stella Symons Charitable Trust
M E Rickman Trust	The Telegraph Plc
Mars UK Corporate Services Ltd	The Thomas Sivewright Catto Charitable Settlement
Menzies Group	The Wolfson Foundation
Morgan Crucible Company Plc	Thomson Corporation
Morgan Grenfell (Deutsche Bank)	Thriplow Charitable Trust

**THE LIVER GROUP**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE YEAR TO 31 DECEMBER 2011**

We are grateful to the following for donations to the “Liver for Life” Appeal, continued:

TI Group

Tom & Sheila Springer Charity

Tomkins Plc

Vauxhall Plc

Violet M Richards Charity

Wilkinson Hardware Stores Ltd

William & Mabel Morris Charitable Trust

**THE LIVER GROUP**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE YEAR TO 31 DECEMBER 2011**

**Publications arising from the work of The Liver Group Charity in 2011**

Cryopreservation of encapsulated liver spheroids using a cryogen-free cooler: high functional recovery using a multi-step cooling profile.

I. Massie, C. Selden, J. Morris, H. Hodgson, B. Fuller  
 Cryo Letters. 2011 Mar-Apr; 32(2):158-65. PubMed PMID: 21766145

Cryopreservation of encapsulated liver spheroids for a bioartificial liver: reducing latent cryoinjury using an ice nucleating agent.

Massie I, Selden C, Hodgson H, Fuller B  
*Tissue Eng Part C Methods*. 2011 Jul; 17(7):765-74. Epub 2011 Apr 20. PubMed PMID: 21410301

Liver cell implants: a long road.

Hodgson H, Selden C.  
*Liver Transpl*. 2011 Feb; 17(2):99-101. doi: 10.1002/lt.22245. PubMed PMID: 21280180

Protein engineered variants of hepatocyte growth factor/scatter factor promote proliferation of primary human hepatocytes and in rodent liver.

Ross J, Gherardi E, Mallorqui-Fernandez N, Bocci M, Sobkowicz A, Rees M, Rowe A, Ellmerich S, Massie I, Soeda J, Selden C, Hodgson H.  
*Gastroenterology*. 2012 Apr; 142(4):897-906. Epub 2011 Dec 13. PubMed PMID: 22178588 –

**Presentations at national and international scientific meetings**

Immobilising Lactate oxidase to reduce bioreactor lactate concentrations, facilitating the growth of encapsulated HepG2 cells for use within a bioartificial liver support device

Katherine Lintern, Clare Selden, Mark Waugh, Humphrey Hodgson  
*Journal of Hepatology*, supplement no.1, vol. 54, 2011, pS368

Plasma aromatic amino acid levels as better markers for hepatic encephalopathy in a pig liver ischemic injury model

James Bundy, Eloi Erro, Peter Sharratt, Wendy Spearman, Delawir Kahn, Malcolm Miller, Antony Figaji, Hiram Arendse, Raymond Michaels, Humphrey Hodgson, Clare Selden.  
*Journal of Hepatology*, supplement no.1, vol. 54, 2011, pS365

Oxygen carriers for biomass preservation during the transport of a bioartificial liver

E. Erro, I. Massie, H. Hodgson, J. Bundy, B. Fuller, S. Chalmers and C. Selden  
*Journal of Hepatology*, supplement no.1, vol. 54, 2011, pS428

*Posters presented at the International Liver Congress 2011 (46th annual meeting for EASL), Berlin Germany, Mar 30th – Apr 3rd 2011*

Improved Cryopreservation Strategy for Liver Cell Spheroids towards development of a Bioartificial Liver. I Massie, C Selden, H Hodgson, B Fuller (2011) BTS Meeting. Bournemouth, UK.

Liver regeneration and cell preservation. I Massie, C Selden, H Hodgson, B Fuller (2011) SLTB Meeting. London, UK.