

# Business sense from universities

Professor Mike Spyer  
Vice-Provost (Enterprise), UCL

## Introduction

UCL is London's research powerhouse, with more than 3,500 academic and research staff in its science, technology, engineering and biomedical departments. In the most recent Research Assessment Exercise, 40 of our departments in these fields were rated '5', '5\*' and 'best 5\*'.

Our academics focus on the translation of research into solutions to the world's major problems. To help them do so, in 2006 UCL reconfigured UCL Business PLC (UCLB), its wholly owned subsidiary, which now consolidates and integrates our previous technology- and knowledge-transfer activities.

UCLB exemplifies how universities can harness exceptional research for positive social and economic benefit, bringing groundbreaking science and technologies to the people who need them.

## UCL Business PLC

UCLB seamlessly covers the complete commercialisation process, from invention disclosure and patent registration through to the drafting of licences, support for the creation of new businesses, and negotiation on sales of technologies and licences to industry partners.

Subject-specialist staff at UCLB focus on specific client and sector needs, while being able to offer the whole spectrum of our university's business services. They have access to substantial investment funds and a large infrastructure of management, staff and advisors, further supported by an established pool of experts in intellectual property and corporate law, as well as commercial advisors and consultants.

A few examples will reflect the effectiveness and varied nature of the UCLB model.

### • Incubation

UCLB supports and encourages the incubation of new businesses through the provision of support personnel and modern office facilities in close proximity to our university, ensuring the strong academic or clinical linkage that was the original source of the invention.

UCLB both owns and manages these facilities, in order that the embryonic company can focus its energies on exploiting the technological discovery and commence commercial operations without delay.

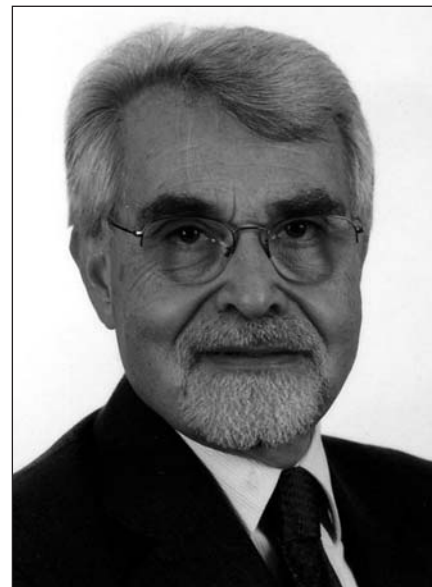
### • Taking ideas to market

UCLB and its predecessors have launched in excess of 50 spin-out companies, transferring innovative research initiated at UCL into the commercial sector.

Ark Therapeutics, for example, has a broad range of treatments for vascular disease and cancer in late stage clinical development. Ark successfully floated on the London Stock Exchange in 2004.

Arrow Therapeutics focuses on the research and development of novel antiviral drugs. The company has developed a broad pipeline of projects at various stages between early research and clinical development. This led to it being acquired by AstraZeneca for circa \$150 million.

SensorNet Works, a spin-out from UCL Electronic & Electrical Engineering, is set to commercialise an innovative approach to the problem of monitoring distributed industrial environments such as railway infrastructures and underground mines. By utilising a number of small, intelligent devices that communicate through meshed radio networks, the company is able to offer an autonomous monitoring solution that is easy for non-experts to install, maintain and use, with Network Rail among its early customers.



Medic to Medic, with its Map of Medicine, is now available for rollout across 85% of the NHS in England and is working closely with NHS Connecting for Health. Separately, NHS Wales and the Nuffield Hospitals and a number of users across the world are already benefiting from the use of the Map, which provides best practice for the complete patient journey from diagnosis to discharge.

### • Consultancy

Through UCL Consultants Ltd, UCL Business PLC provides clients – including governments, global corporations, public bodies, and small- and medium-sized enterprises – with direct links to academic staff across our university.

UCL's breadth of expertise allows for consultancy in areas as diverse as: analytical and testing services; expert witnesses for litigation and patent infringement; instrumentation design, prototype design and testing; computer modelling; clinical and drug evaluations; risk assessment; and novel applications for communication and language.

The application of new technologies to the arts and humanities sector includes, for example, authentication technology for the identification of pigments in paintings, drawings and maps. Raman spectroscopy expertise in UCL Chemistry and UCL History of Art was used to authenticate the pigments in 'Young Woman Seated at the Virginals', by Johannes Vermeer. The painting was subsequently sold at Sotheby's for more than £16 million.

• **Licensing**

Licensing through UCLB puts novel techniques in the hands of practitioners.

Advanced Design Technology, established in 1998 as a joint venture with Ebara Corporation of Japan, commercialises turbo design software developed by Professor Mehrdad Zangeneh at UCL. The company's products, which are based on intellectual property licences from UCL, help not only to shorten development time for turbo-machinery but will also improve the performance of turbo-machinery components.

Building on breakthrough technology licensed from UCL, Space Syntax has developed revolutionary practical user-testing of buildings and public spaces while they are still on the drawing board, allowing architects and planners to solve problems before they arise. UCLB recently negotiated an exclusive licence to allow proposed designs to be interrogated by millions of 'virtual agents', who can be set specific tasks to complete. By monitoring agents performing individual tasks, virtually any usage scenario can be tested

• **Clinical trials facilities**

UCLB arranges specialist academic clinical research and commercial clinical trials in a variety of facilities.

The new Stanmore Clinical Research Facility is a partnership between UCLB and the Royal National Orthopaedic Hospital (RNOH). Its specialist imaging system can detect when implants such as hip and knee replacements are loosening, long before the patient starts to notice a deterioration in function. The facility is also equipped to measure bone mineral density and 3D structural parameters non-invasively.

UCL Advanced Diagnostics Ltd has one of the largest collections of antibodies for use on tissue sections, allowing pathologists and pathology laboratories to augment their own immunocytochemical analyses.

The UCL Analgesia Centre Ltd focuses on the organisation and management of clinical trials in different acute and chronic pain indications such as neuropathic pain, osteoarthritis, fibromyalgia and lower back pain.

• **Entrepreneurial culture**

UCLB, in association with UCL Centre for Enterprise & the Management of

Innovation (UCL CEMI), helps to infuse the research culture of UCL with entrepreneurial perspectives.

The UCL Business Award was established to reward entrepreneurial achievement. Three UCL scientists recently won the inaugural award for their work in developing Simulect®, which acts to prevent the rejection of organs following transplantation, drawing on the researchers' work on therapeutic monoclonal antibodies. Simulect® has been used to treat over 150,000 patients worldwide.

Along with the Centre for Scientific Enterprise (CSEL) and UCL CEMI, UCLB also contributes to the annual London Entrepreneurs' Challenge, which aims to encourage the next generation of entrepreneurs at UCL and the London Business School by helping students and staff to think about how their ideas can be applied commercially and demonstrating the basic concepts needed to communicate a new business idea.

• **Partnering**

UCLB initiated and led the negotiations with Arius3D to bring to UCL the latest generation Arius3D colour laser scanner, worth £500,000 and the first of its kind in Europe. The new scanner's applications will serve a range of sectors, including – but not limited to – heritage, engineering, medicine, dentistry, anthropology, archaeology, art and architecture. It is creating opportunities for the university's researchers and conservators, as well as other institutions, such as the British Museum, the Victoria & Albert Museum, the Museum of London and the National Trust, to scan collections in 3D and to make them accessible for all to see over the internet.

UCLB and the RNOH have recently agreed heads of terms to initiate a collaboration with Sewon Cellontech of South Korea to develop new laboratories to undertake therapeutic treatments for cartilage repair and bone fracture healing. The treatments are expected to use stem cells derived from the patient's own bone marrow and cartilage tissue, with the potential to alleviate the need for radical surgery.



*Space Syntax worked with architects Foster and Partners to transform Trafalgar Square*

*If you would like to know more about how UCL translates its excellent research into applicable solutions, please see the UCLB website ([www.uclb.com](http://www.uclb.com)) or the UCL website ([www.ucl.ac.uk](http://www.ucl.ac.uk)).*