

## Life sciences' role in economic recovery



George Freeman (right) with Prime Minister David Cameron

George Freeman is a Member of Parliament and the Government's advisor for life sciences. He was elected MP for mid-Norfolk in 2010 after a 15-year career in biomedical research. He offered LBIC his thoughts on challenges facing the sector and the role it has to play in our wider economic recovery.

How do we unlock a sustainable UK economic recovery? We can't borrow and spend our way out of our debt crisis. We have to trade our way out by selling things the rest of the world needs. I believe our life science sector has a fundamental role to play in that.

The life sciences are about the appliance of bioscience to solve societal problems – principally in the three core markets of medicine, agriculture and energy. Today's developing nations need public health, agriculture and food, water and basic energy supplies. In the coming decades they will develop into major markets for more sophisticated ('Western')

biomedicines, sophisticated foods and clean energy. Our life science sector can play a key role in helping them achieve that transition, while driving investment into our science base, and supporting the UK's leadership in clean energy, biomedicine and food science. To unlock the confidence and sustainable economic growth we so badly need, we need to gear our export and trade towards the fastest growing emerging nations of the world.

The life sciences strategy announced by the Prime Minister in December 2011 marked a significant shift in policy. At the heart of the strategy is the idea that by better integrating... **Continued on page 3.**

### WELCOME

This issue we are delighted to lead with a thought-piece from George Freeman – the Government's advisor for life sciences. Given the funding challenges facing the sector, it seems timely to remind our readers of the various sources of financing available. We focus on the Biomedical Catalyst as well as highlighting schemes available through the Wellcome Trust.

We are also delighted to highlight the newest spinout business from LBIC's parent institution, the Royal Veterinary College (RVC) – Tecrea Ltd – which has become a new client.

As well as bringing you the latest news from our client companies, we interview Sean Ward, CEO at Synthace and Mo Alavijeh, one of the founders of new client Pharmidex.



Paula Burton  
Editor

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## Dehns

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## Plasticell and Veritas exclusive distribution agreement in Japan

PLASTICELL has engaged Tokyo-based Veritas as the exclusive distributor for its services and products in Japan.

The deal includes CombiCult, Plasticell's award-winning combinatorial screening technology, which allows scientists to discover new stem cell differentiation protocols.

Japan is one of the leading countries in stem cell research. By making CombiCult more accessible to the Japanese research community, Plasticell hopes to reduce cost and risk while significantly accelerating Japan's stem cell research.

## PolyTherics granted further patents for TheraPEG and GlycoPol

POLYTHERICS has strengthened its intellectual property estate in key markets with further patents for TheraPEG in Australia and Japan, and with a US patent for GlycoPol.

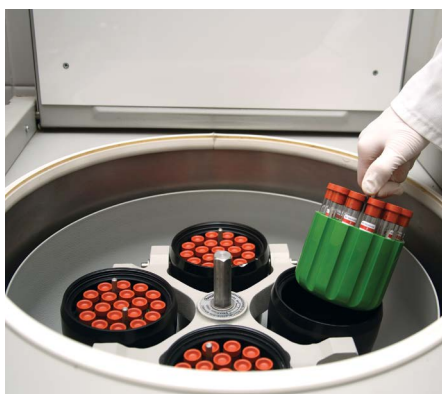
The granting of the US patent is a significant milestone for PolyTherics, which is currently collaborating with several biotech companies and a top five pharma company in the application of GlycoPol for targeted delivery of a range of biotherapeutics.



## Stabilitech starts TSB RegenMed and Gates Grand Challenge programmes

STABILITECH began a joint regenerative medicine technology programme with UCL in February, following a £300,000 grant from the TSB.

Stabilitech has demonstrated its potential to enable vaccines to be stored at a wide range of temperatures. The TSB programme aims to discover formulations to protect regenmed therapeutics over the entire manufacturing, storage and distribution chain, overcoming the stresses that currently lead to changes in cell efficacy and functionality. Stabilitech will introduce the Company's technology to leaders in the field of regenerative medicine by working with UCL and their industrial users' group. Stabilitech's thermal stabilisation technology is also being used, with UCL, for the Gates Grand Challenge Explorations programme.



## Diabetology and USV announce exclusive oral insulin licence agreement

DIABETOLOGY has signed a licence agreement with USV for the development and commercialisation of Diabetology's oral insulin for the Indian market. USV will spearhead the development process and commercialisation in India, and Diabetology will receive milestone payments and royalties on sales.

Diabetology's oral insulin candidate administers insulin in an easy-to-swallow capsule.

## ProtAffin AG starts Phase 1 study for lead product PA401

PROTAFIN has started dosing healthy UK-based volunteers in a Phase 1 clinical study of its investigational anti-inflammatory product PA401.

Discovered using ProtAffin's proprietary CellJammer discovery platform, PA401 acts as a potent, targeted anti-inflammatory protein preventing the infiltration of neutrophils – a hallmark of many respiratory diseases, including chronic obstructive pulmonary disease and cystic fibrosis.

## Horizon Discovery and Domainex collaboration

HORIZON Discovery has signed an agreement to support Domainex's TBK1/IKK oncology research and development programme, carried out in collaboration with the Institute of Cancer Research.

Horizon will profile a number of lead compounds against a panel of X-MAN isogenic disease model human cell lines, which accurately model the mutations found in cancer cells.

## Continued from front page

our academic research base with the NHS and its reservoirs of public health data on health outcomes, we can position the UK at the forefront of the next wave of translational, targeted and personalised biomedicine, to the benefit of UK patients, NHS and economy.

## Britain's unique role

Britain is uniquely well positioned to help lead the revolution in genomics, targeted medicine and performance-based reimbursement sweeping global healthcare. We have a combination of world-class universities and clinical science, a centrally-organised healthcare system, a highly respected ethical framework, historic reservoirs of data on disease and drug response, and a well-established industry and financing sector. Our expertise and data on cancer, diabetes and dementia are urgently needed by the rising economies of the East.

As part of this Government's commitment to a proactive industrial strategy to drive sustainable growth, the role of Government is to do everything it can to reduce barriers, create incentives and spend scarce public money in a way that supports these key sectors, and attracts private investment to help secure

world-class public services. We have an opportunity to attract billions of pounds of R&D investment into our medical research sector, but to do that we need to protect our basic science base, invest in our medical research infrastructure, incentivise clinicians and scientists to work with industry and make the NHS more open to innovation.

None of this will be quick or easy. But we are determined to make tangible progress and I am working with life science champions, John Bell and Chris Brinsmead, to oversee implementation. We are making some important progress. Nearly £1bn has been raised in a series of new venture funds for UK research and development in the last six months.

The bio-pharmaceutical sector of healthcare is a large and high-growth sector (£50bn turnover, 158,000 employees, and over 1,000 companies), but one which is going through major global restructuring. I applaud LBIC's work in supporting the breadth of companies across the life science sectors. The possibilities for networking and access to finance offered by a London location greatly enhance the probability of success for ambitious and innovative start-ups.

London's excellence in life sciences is internationally recognised, as demonstrated

by the recent announcement that the section of the EU Patent Court responsible for life sciences will be in London from 2014. That means many more jobs and substantial investment in this industry and in our capital city.

## An Olympic boost

Hosting the Olympics in London at a time when we so urgently need to kick-start our economic recovery was the perfect opportunity to showcase the many sectors in which Britain leads the world. In my role as ministerial life science advisor, I was delighted to be invited to join senior ministers and business leaders to help secure international businesses' investment for Britain during the Olympics. We were able to tell national, business and research leaders at summits at Lancaster House and the Guildhall and at a reception at No10 about how the UK and London are pioneering many of the fastest emerging new technologies and disciplines in biotech.

I was proud to highlight that some of the most important science in the world is being done here and promote this as a fantastic place to come and work, build a world-class business and help solve some of the world's biggest challenges in tackling disease, food security, climate change and sustainable development.

# LBIC clients among first Catalyst award recipients

TWO LBIC clients were among 18 SMEs to receive funding awards from the Technology Strategy Board (TSB) to carry out feasibility studies.

In August the Medical Research Council (MRC) and the TSB made the first funding awards under the joint £180 million Biomedical Catalyst. Domainex and Pharmidex were among the 18 to be awarded funding totaling almost £2.5 million by the TSB.

Fourteen universities received MRC Confidence in Concept awards, which

support the earliest stages of multiple translational research projects within institutions. Funding will be used to



evaluate the commercial and scientific potential of early-stage ideas.

The Biomedical Catalyst will also grant Early Stage and Late Stage awards.

Categories are designed to support the maturation of an idea from concept to commercialisation, creating a pipeline of projects. Applicants may apply for an appropriate award category without having received a prior award.

The Biomedical Catalyst is part of the UK Government's overall life sciences strategy, which also includes an above-the-line R&D tax credit to be introduced in 2013, help for early-stage companies through the Seed Enterprise Investment Scheme and the appointment of two life sciences champions.

# 10 Tips for managing your online communications

– by Deborah Cockerill at Sciad

In the digital communications environment, companies need to operate as publishers of their own content. Below are 10 tips for managing your online communications to raise awareness about your company and help you achieve your goals.

- 1** Build your website with a content publishing strategy in mind. Use a site map structure to include your news, events, articles, videos and resources.
- 2** Choose a modern, robust content management system (CMS) with an admin system allowing you to easily update your site.
- 3** Include CMS functionality that allows you to update search engine optimisation (SEO) tags such as title, description and alt tags.
- 4** Include information archives on your site so that older content can be organised by date.
- 5** Use targeted industry newswires to distribute your news releases to complement your media relations.
- 6** Take into account SEO keywords, links and tags when you post press releases and other new content on your site.
- 7** Include Twitter, LinkedIn and other social media links at the bottom of each of your press releases and new resource pages to give you and your target audiences a quick method of passing on your content.
- 8** Set up an RSS feed to distribute new content automatically to subscribers.
- 9** Highlight the latest content that you have added to your website on your homepage.
- 10** Divide your content into three categories as follows:
  - Marketing content that you would like your target audiences to know about your company and your products or services.
  - News and information that can be distributed via newswires to be taken up by specialist press.
  - News you can shout about that will interest editors. Liaise with journalists, writers and webmasters and promote your news to leading publications.

There is no need to keep your content locked up – spread the word and distribute your news and information openly on the web!

## Sector funding: the Wellcome Trust

The Wellcome Trust has a number of schemes focusing on specific areas:

The **Pathfinder Awards** support academic-industry partnerships to develop new products for orphan and neglected diseases where no current therapy exists, or where a superior product could be developed. By the end of the Pathfinder Award, the innovation should be a credible asset ready to be further developed by the company and/or be competitive for one of the Wellcome Trust's existing translational awards schemes.

The **Translation Fund** was launched in September this year. The scheme, combining the previous Translation Awards and Strategic Translation Awards, focuses on translational R&D.

The **Health Innovation Challenge Fund** aims to accelerate the clinical application of projects that are advanced along the development pathway. Its objectives are to:

- Stimulate the development and uptake of innovative products for patients
- Support UK-led projects targeting unmet healthcare needs
- Fund projects that have demonstrated proof of principle and have the potential for clinical use or adoption within five years
- Take the product to a stage attractive to follow-on funders or investors
- Encourage the collaboration of companies, academia and clinicians.

**Seeding Drug Discovery** provides Strategic Translation Award funding for projects that typically deliver patentable, drug-like lead candidates. The project

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results, intellectual property and outcomes should then attract follow-on developers/investors from the commercial or not-for-profit sectors.

**R&D for Affordable Healthcare in India** funds translational research projects to deliver affordable, safe and effective healthcare products. It encourages innovations that bring together researchers from the public and private sectors to extend access to care to the greatest numbers of beneficiaries, without compromising on quality.

# Pharmidex interview

## Joel Dudley interviews Mo Alavijeh, one of the founders of Pharmidex, a world leader in studying central nervous system drug distribution and biochemical responses to new drug candidates

Pharmidex provides a value-adding service and offers consultation to biotech and pharmaceutical companies in the process of developing new medicines. The team has a wide range of drug discovery and

Alan Palmer and myself. Our intention was to help fast-forward drug discovery for brain disorders. We initially secured a feasibility SMART grant from the Department of Trade and Industry. This



development experience gained in leading pharmaceutical and biotechnology companies. In addition to CNS pharmacology, team members have previously been involved in the development of cardiovascular, respiratory and oncology medicines.

Pharmidex developed NeuroPK and NeuroPD technologies, which measure the distribution and effect of drugs in different regions of the brain, enabling the development of safe and more effective new medicines. In the decade since it was formed, Pharmidex has built up a customer base spanning North America, Europe, Japan, India and Australia.

### **How and when was Pharmidex established?**

Pharmidex was established in 2002 by

helped us to validate our NeuroPK screening technology for detailed profiling of unbound drug distribution in discrete brain regions.

### **What are some of your key achievements to date?**

With a team of 25 high-calibre scientists, the company supports clients by developing new technologies to help their drug discovery efforts. Examples include drug delivery technologies to enhance brain penetration and regenerative medicine platforms.

The company has developed methods to relate drug concentration in blood and brain to its pharmacological and therapeutic effect. This, along with an extensive range of ADMET technologies,

permits effective optimisation of lead molecules and drug candidates.

### **What particular features of LBIC led you to come here at this point?**

Pharmidex is a new tenant at LBIC but we have benefited from strong links with it over the past decade. LBIC has been a key networking hub for London biotechnology companies and academics to meet regularly and exchange ideas.

We decided to be based at LBIC because of our collaboration with its parent institution, the Royal Veterinary College, the potential for collaboration with companies already based at LBIC, the central London location and proximity to Kings Cross St Pancras. We also chose LBIC because of the professional management team, who are aware of the distinctive needs and challenges facing biotech companies.

### **Looking to the year ahead, what are you and your Pharmidex colleagues most excited about?**

We are very client-focused and our goal this year is to significantly extend our client offering. Currently we are in the process of establishing Zebrafish (hepatotoxicity and cardiotoxicity) and oncology models to add to the CNS and ADMET/PK services we are already very well known for.



# OctoPlus joins LBIC

**LBIC welcomed new Dutch client OctoPlus this Summer. Paul van der Hoeven introduces the company, which was established in 1995:**

## About us

OctoPlus is a speciality pharmaceutical company, known for its expertise in pharmaceutical development of injectables, with partnerships with biotech and pharma companies throughout the world.

We provide flexible pharmaceutical development services, controlled-release drug delivery technologies and cGMP manufacturing of final products.

## Where others stop, we just start

We are keen to make difficult APIs work,

whether they are siRNA, therapeutic proteins or low soluble small molecules.

## Partnering 'plus' with OctoPlus

We want to turn partnering into an exceptional experience. Using both proprietary and non-proprietary technologies and knowledge we build flexible partnerships and co-development agreements. We are always prepared to discuss sharing risks and costs for the development of promising compounds, and companies do not need to go through the hassle of selecting and qualifying additional contractors.

## Contact Paul van der Hoeven

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+44 (0)207 691 2151



**LBIC welcomes the companies listed below, who have joined the Centre as virtual, office and/or laboratory clients over the past six months.**

- **OctoPlus**
- **Pharmidex**
- **PCR Biosystems**
- **The London Endocrine Centre**
- **Tecrea**

# Focus on Dehns

## Patenting without breaking the bank

**Jodie Albutt from Dehns offers guidance on how to navigate the patent process cost effectively.**

Protecting innovation using patents can provide a business with its most valuable assets. Patenting is perceived as an expensive and lengthy process, but costs can be reduced with a carefully planned strategy. Any initial financial outlay may ultimately be recovered many times over.

A balance must be struck between the advantages of deferring costs and any financial benefit from the rapid grant of a patent. Many applicants choose to defer patenting costs (e.g. by filing an international application, which later forms the basis of multiple national/regional applications). This provides more time to attract investors, or to further develop or test the invention either commercially or scientifically, and also retains the application on the portfolio to deter third parties. This may not be the most

appropriate course of action if it is possible to make money immediately from a granted patent in a particular country or region, e.g. if there are any potential licensees or infringers.

Country selection is extremely important and is a main factor in patenting costs. Although it may be desirable to pursue

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protection for an invention in many different countries, consideration should be given to where any product or service is sold or provided, where any product is manufactured and where any potential infringer may operate.

If rapid grant is likely to be advantageous (e.g. to secure an investor or to take action against an infringer), then strategies can be adopted to achieve this, for example

requesting accelerated examination, or making use of the Patent Prosecution Highway where an allowable claim set in one country may be used to advance examination in a further patent office.

The UK Government's upcoming Patent Box, which provides a reduced rate of corporation tax for profits attributable to patents, provides a further incentive to achieve grant quickly. The potential savings in corporation tax alone means that UK companies should consider making full use of opportunities to patent their technology and we recommend a review of your current patent portfolio and unpatented technology to identify opportunities for Patent Box tax relief.

For further details or information regarding any of the above issues please contact Dehns ([mail@dehns.com](mailto:mail@dehns.com)).

## Interview with Sean Ward, co-founder and CEO at Synthace

Joel Dudley interviews Sean Ward, co-founder and CEO at Synthace, which was established in 2011. Sean says his company's efforts to commercialise synthetic biology in the UK are helping to establish Britain as one of the pre-eminent locations in the world for the rapidly evolving field.



Having studied at the University of Virginia, Sean gained a degree in computer science from UCL and stayed at the college for a further four years as a bioinformatics research associate. During that time he was involved in research into protein structure prediction, graphics processing unit (GPU) acceleration of bioinformatics problems and protein coding optimisation for synthetic biology. In his final year at UCL, Sean and colleagues established Synthace as a limited company. The other founders were Markus Gershater, a former synthetic biology research associate at UCL, and Chris Grant.

### How did Synthace make the transition from UCL to independence?

Synthace began spinning out of UCL in January 2011, with the help of an enterprise secondment award from UCL Advances. We used this to assess market opportunities in synthetic biology, hit some initial technical proof points, and firm up the team. By July the company was fully independent of UCL, and self-funded. Since then, we have raised a £500k angel

round, sourced from The London Business School E100, The London Business Angels, OION, Angels 5K, and UCL Business. Our first products will enter the market this Autumn, primarily in biocatalysis and ADME applications.

### How has LBIC helped Synthace progress?

I attended the first LBIC BioPioneer programme and greatly appreciated the advice and contacts I made. The validation of being named a winner by my peers at the event, and the resulting tenancy, were also very helpful. As an example, our first hire came from that BioPioneer event. Since then, I have graduated to being a speaker at this year's BioPioneer, with several potentially interesting recruits having come from that opportunity as well. A number of other BioPioneer graduates have gone on to interesting things,

including Daniel Perez with Oxbridge Biotechnology Roundtable and Marblar, and Suki Klair with Labstract.

A key part of our relationship with UCL is continued access to the facilities there. However, LBIC is the only nearby lab space for us to grow into, and the closest base of other biotech startups to draw on for advice and support. There is also a valuable credibility that comes from working with LBIC, which was especially important in our early days.

### What are your goals for the coming year?

We will continue to build relationships with other academic institutions, continue to develop our core platform for the rapid development and optimisation of micro-organisms, and use our proprietary technologies to quickly introduce new products to the market. We are working hard to help commercialise synthetic biology in this country, and to establish the UK as one of the pre-eminent locations in the world for this rapidly growing field.

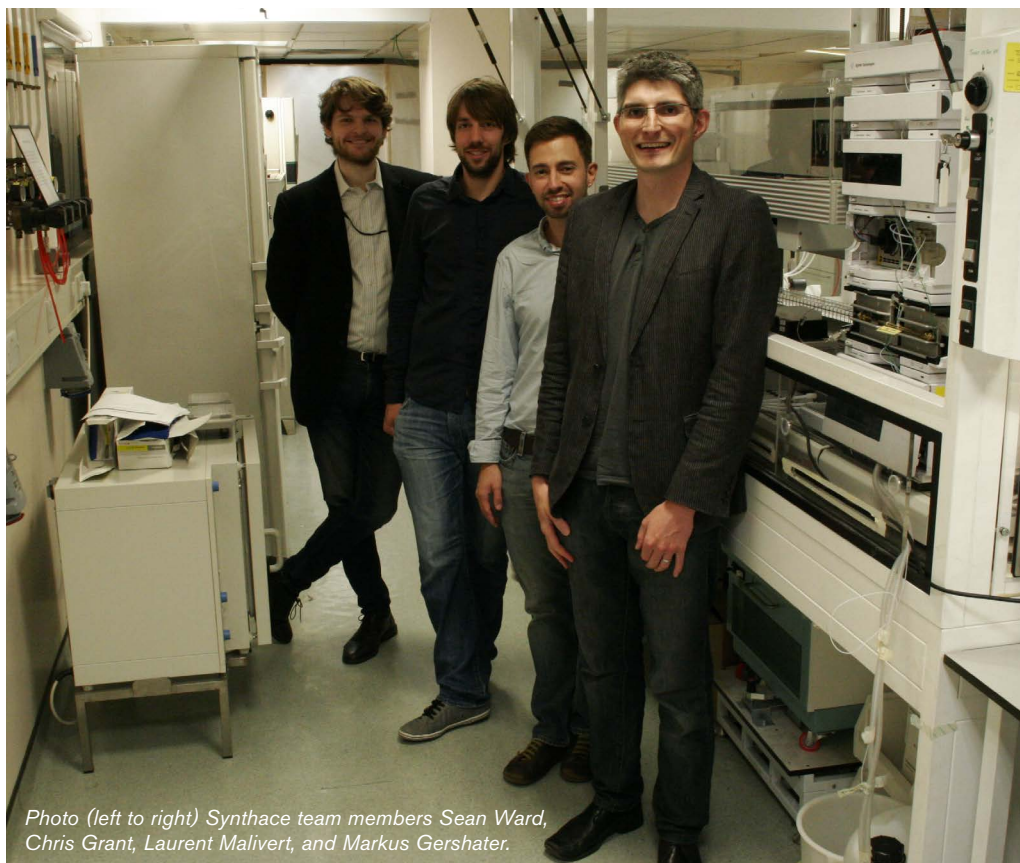


Photo (left to right) Synthace team members Sean Ward, Chris Grant, Laurent Malivert, and Markus Gershater.

# Tecrea – a new RVC spinout at LBIC



Tecrea was founded in March this year to exploit IP generated within RVC laboratories.

The company develops and commercialises a novel nanotechnology-based cellular and tissue delivery platform, based on a chemical class that has a long safety record.

Already making an impact, Tecrea's HappyFect reagents for plasmid, RNAi and protein delivery have shown great promise

in a number of academic and industrial labs.

Tecrea's drug reformulation platform, Nanocin, is currently being evaluated by biopharmaceutical companies. The company aims to have its first distribution and out-licencing agreements in place by the end of the year.

## Second successful bootcamp




LBIC staged another successful BioPioneer Bootcamp earlier this year, sponsored by Capital Enterprise, the Royal Bank of Scotland, The Francis Crick Institute and the European Union's INTERREG IVB NWE programme.

Delegates from universities, SMEs and other research organisations were given an


introduction to the key aspects of starting a business.

At the end of the two-day event, a prize of a six-month LBIC virtual office was awarded to Laurynas Pluskys for the best business plan, as voted for by the delegates.



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## Contact us

LBIC has been supporting life sciences companies since 2001. Today we host over 40 companies ranging from entrepreneurial start-ups to more established UK companies and overseas subsidiaries from Europe, North America and Asia Pacific. The Centre is owned



and operated by the prestigious Royal Veterinary College, one of the independent Colleges of the University of London.

The Centre is a 10-minute walk from St Pancras International for Eurostar services and the site of The Francis Crick Institute. For further information, or to enquire about our services, contact:

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