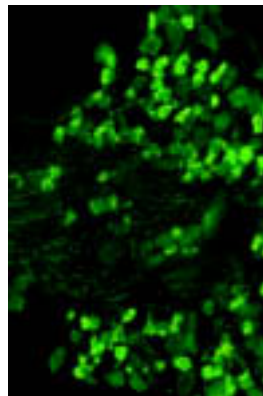


# No pain – all gain

---

Pain is one of the facts of life – but a Bristol spin-out company is hoping to change the facts a little.

---



FIONA HOLMES/CHANEL THOMAS

Above: Galanin immuno staining in the sensory nerves of the dorsal root ganglion.  
Right: David Wynick, Professor of Molecular Medicine, in the newly completed Dorothy Hodgkin Building.

**We're all familiar with the short-lived pain from a cut or burn**, but some of us are unfortunate enough to suffer from something much worse: a chronic and extreme form of pain that can last for years. For those people, it can amount to a life of unremitting torture which, in certain cases, even makes wearing clothes an excruciating agony. Until now, this long-lasting pain – often called neuropathic or inflammatory pain – has had no effective treatment. But a University spin-out company, NeuroTargets Ltd, is working hard to provide a gene-based solution. This breakthrough follows almost a decade of work by NeuroTargets founder David Wynick, Professor of Molecular Medicine, and his group at the Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology.

Professor Wynick's starting point was to examine various types of neuropathic pain (caused by damage to the sensory nerves) and inflammatory pain (caused by injury to tissues). Damaged nerves can result from physical traumas such as accidents, from illnesses such as diabetes and alcoholism, or from chemicals such as those used to treat cancer or HIV. The damage can often cause numbness, but just as often this lack of sensation is accompanied by very unpleasant burning or tingling, and at worst can take the form of unremitting neuropathic pain. Such pain, Professor Wynick explains, is 'persistent and incredibly unpleasant, and can be with people for many, many years; it causes millions of man hours of lost time each year to industry, and it's a huge burden on the health service, in the UK and all over the world.'

Professor Wynick and his group have focused on the role in pain played by a neuropeptide called galanin, which is stored in several locations in the body, including the brain and the peripheral nervous system. The amounts of galanin rise up to a hundred-fold after nerve injury. This suggests that galanin plays a crucial role in the body's response to nerve damage. Further research has shown that when the levels of galanin are altered by genetic engineering, that markedly affects neuropathic pain behaviour and the regeneration of sensory neurons.

Subsequent work by Professor Wynick's group revealed yet more gene 'targets' that seem to be important for pain. It was not long before the commercial possibilities of this research became obvious. 'Once we began identifying genes that seemed to play a role in modulating pain, I realised the enormous potential it opened up for drug discovery,' he explains. The spin-out potential of all this, even in 1997, was obvious. Back then, the Research and Enterprise Development (RED) office was only a gleam in the eye of Senate House, so Professor Wynick met with Tom Hockaday, then the Head of RED's predecessor, the University's Intellectual Property Management Unit. 'We discussed the idea in quite some detail,' he says, 'and he agreed that it had great potential.'

It is a measure of how far the industry's attitude to enterprise has come since the '90s that there were then very few companies that provided a mentoring service to help start up university spin-out companies. Dr Hockaday set up a meeting with one of the exceptions – Progeny Bioventures, a DTI-funded subsidiary of Angle Technologies. 'They came down to see us, and agreed





TAMANY BAKER




---

‘If I can retire knowing that I’ve taken a new drug to market that substantially treats pain, I’ll be a happy man.’

that there was a lot of promise in the project,’ says Professor Wynick. ‘They then acted as mentors, and took on the administration of our fledgling company: they produced a business plan, provided the support staff once we needed it, took care of the payroll, the tax returns, everything. They invested a huge amount of time and effort in it, in exchange for owning some of the equity in the company.’

NeuroTargets Ltd came into existence – on paper at least – in 1998, and when the first deal was struck with a major pharmaceutical company in 2001, the company formally came into existence and made its presence felt in the UK pharmaceutical industry. Professor Wynick hopes that work on their most advanced target, galanin, will yield a drug that could begin clinical trials in 2006.

These are exciting times for spin-out companies such as NeuroTargets, but Professor Wynick believes that the University has yet to tap fully into the commercial potential of its many research programmes. ‘There’s so much more we can achieve,’ he says. ‘Siân Thomas, the Director of Research and Enterprise Development, and Neil Bradshaw, Director of Enterprise, have had the great foresight to appoint enterprise leaders in each faculty to try to identify more work that could be commercialised and/or formed into spin-out companies.’ As a result of this and other initiatives, the University now has a much more comprehensive programme of support and finance for work with spin-out potential – for example, through the Enterprise Development Fund or the Sulis Seedcorn Fund.

As NeuroTargets Ltd bounds forward with its eye fixed firmly on the marketplace, Professor Wynick is pleased that one of his lifetime ambitions is a step closer to being fulfilled. ‘As a clinician, and as a scientist, my goal is to improve the health of mankind,’ he says. ‘If I can retire knowing that I’ve taken a new drug to market that substantially treats pain, I’ll be a happy man.’ □

*For more information on the Enterprise Development Fund, the Sulis Seedcorn Fund, or any other aspect of Research and Enterprise Development at the University, go to [www.bristol.ac.uk/research](http://www.bristol.ac.uk/research).*

# Enterprise news

---

## Bristol and partners get major boost

---

A unique partnership between the universities of Bath, Bristol, Southampton and Surrey received the largest award from the DTI's Higher Education Innovation Fund (HEIF) to encourage enterprise, build new businesses and work more effectively with industry. This collaboration, unique in the UK in encapsulating all aspects of university enterprise, won through a competitive, peer-review process. The award of £13 million over two years means that businesses can benefit from enterprise training and have greater access to innovative research that could lead to new products and processes.

The four universities already work together on the SETsquared initiative, which so far has helped over 100 new high-tech, high-growth companies to get off the ground across southern England. Here are just a few SETsquared companies, all based in the incubation facility at Bristol's University Gate:

- EyeGaze – providing telecommunications and multimedia services for the deaf;
- Coull Ltd – developing a platform for internet-based video using broadband technology;
- Enable Interactive – creating website solutions to make services accessible for disabled people;
- GO Science Ltd – providing low-power, wireless remote control sensing technology for collecting, processing and displaying complex environmental data;



- VEQTER Ltd – providing a materials stress management service, using an innovative scientific technique for measuring stresses deep inside engineering components.

SETsquared has become an important part of the Bristol's entrepreneurial community; so, too, has the University-run Bristol Enterprise Network (BEN), which provides access to training and networking opportunities and enables its members to form relationships with organisations at all levels of the business process. Thanks to recent government funding, membership of BEN is now free.

---

## Awards add to success

---

Now that entrepreneurship is increasingly a feature of University life, many Bristol academics are winning awards as well as business contracts for bringing their research into the enterprise arena. One example is Dr Eric Mayes in the Department of Physics, who co-founded NanoMagnetics Ltd after inventing a method to increase the amount of data stored on magnetic storage media. NanoMagnetics now designs and manufactures advanced magnetic particles for the flexible disk and tape

Above: Early in 2004, SETsquared referred the University-based software company Mobile Life to the South West Angel and Investor Network (SWAIN), a not-for-profit company. After a SWAIN forum in May, a private investor agreed to invest in Mobile Life, and is joining the company as an Executive Director. Pictured above are Phillip Tellwright, Chief Executive of SWAIN (left), and Stephen Doyle, founder and Chief Technical Officer of Mobile Life.

industry – and has pushed information storage density on magnetic media to unprecedented levels. In recognition of this, the Royal Society of Chemistry awarded Dr Mayes its 2004 Chemistry Entrepreneur of the Year Award.

The University gives its own awards to staff and students through the New Enterprise Competition, which every year reveals in its shortlist a range of sometimes surprising ideas. The 2004 shortlist included new light-emitting technology to improve the visibility of cyclists, ultrafast semiconductor chips that use light waves instead of electric currents, and a method of improving the development of new medicines by using the Children of the 90s database.

In the event, the first prize was shared between two teams of researchers: Andy Butterworth and Toby Knowles in Food Animal Science, whose 'Warm Body' project will produce a tampon-sized device to record changes in a woman's body temperature and help to predict the times of maximum fertility; and Rob Dover and Anthony Forster in Politics, whose idea, 'Global Risk Management', involves providing information to organisations and individuals so that they can take personal and business risks with greater certainty and precision. There was also an undergraduate prize which went to Engineering students Timothy Palmer and Malcolm Dalzel-Job for their 'Predictive Text Keyboard', which could increase PC typing speeds dramatically.

---

## Capital projects and estate developments 2003/04

---



Above: The interior of the BLADE building during construction.

During 2003/04, major projects totalling £28.6 million came to a successful completion.

### **Bristol Laboratory for Advanced Dynamics Engineering – BLADE**

This £18.2 million project to provide new engineering laboratories was completed in May 2004 and fully fitted out by October 2004. The aim of BLADE is to characterise the performance of structures long before they go into service.

### **Seamless End-to-end Multimedia and Network Technology Interface Centre (SEMANTIC)**

This £4.3 million facility will extend the multidisciplinary research on communications and computing within the departments of Electrical and Electronic Engineering and Computer Science.

### **Medical Facilities, Langford**

This £3.4 million Medical Sciences research laboratory was completed in May 2004.

### **Teaching Block, Harold Pearson Building, Langford**

This major internal refurbishment and extension, costing £2.7 million, was completed in January 2004.

---

Several projects are still ongoing, including:

---

### **SRIF(2) Programme**

£28 million funding from the Science Research Infrastructure Fund. The majority of the works undertaken are in the School of Medical Sciences. £18 million is being invested in the upgrade of laboratories. Completion is expected in October 2006.

### **Nanoscience and Quantum Information Building**

An £8.2 million project, located in Tyndall Avenue, will provide space for interdisciplinary and multidisciplinary research in Nanosciences and Quantum Information.