

RED  
Research & Enterprise Development

HIGHLIGHT  
REPORT | 09/10

 University of  
BRISTOL



200 YEARS

University Hospitals Bristol  
NHS Foundation Trust 

Bristol Eye Hospital  
celebrating 200 years

Technology



# Our Mission

RED works with University colleagues, students and external partners to support world-class research and enterprise.

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# Introduction

**Universities have benefited from an unprecedented increase in access to research funding in recent years. The current economic climate means this period of growth has now come to an end.**

Universities will remain under great pressure to make a broader contribution to economic and social development, but to do so from a dwindling source of public funds. Our role in RED is to help ensure that the University of Bristol remains equipped to continue its excellence in research and enterprise during these challenging times.

We have many advantages over other institutions. We start from a strong academic base, with outstanding past performances to draw upon. Much of our research is multidisciplinary in nature, and has significant economic and societal impact. However, we can not assume that this will mean that we will retain our share of public, charitable and business funding. Nor can we take for granted that the next generation of technology start-ups will 'just appear'. RED will play an ever important role in helping to sustain, develop and thus maximize these endeavours.

I am convinced that we will best meet these challenges by harnessing the power of partnerships.

Bristol has always been a collegiate University – and the partnerships we have nurtured over the past few years will now be vital elements of our future strategy. We will be able to accomplish with others what we could not readily deliver on our own.

One of the highlights of this year has been the news that Bristol will be the location of the new National Composites Centre. RED helped bring together companies such as Airbus, Rolls Royce, Vestas and GKN to create a centre that will be at the forefront of composite research, design and rapid manufacture for years to come.

It will also be the flagship building in SPark - the new Bristol and Bath Science Park – meaning that another long standing partnership that the University has invested in will come to fruition.

This new centre could not have happened if there were not existing relationships already in place. Our partnerships with these leading companies take time to develop – and RED invests huge resource in cultivating and sustaining these important alliances. We have focused further over the past year in developing strategic partnerships with key businesses, NGOs, charities and public bodies in areas as diverse as pharmaceuticals, water and renewable energy.

We have collaborated for several years with Bath, Southampton and Surrey Universities in our SETsquared Partnership. This has enabled us to source investment capital for our spin-out companies, showcase the impact of our collective research, develop a nationally-leading enterprise network, and pioneer what is widely regarded as the leading business incubation programme in the UK.

With the University of Cardiff we deliver a multi-million pound research

programme in translational medicine. Closer to home we are fostering stronger links with local NHS Trusts and support the Bristol Research and Innovation Group for Health, BRIG-H. Internationally, RED has helped broker a strategic research alliance with the University of Kyoto in Japan, and my team continues to help coordinate the World-wide Universities Network (WUN). RED has played a key role in helping our academics reach a position of pre-eminence in obtaining European funding.

We all know that we face very difficult times ahead – and I am convinced that the next few years represent huge opportunities for further innovation, collaboration and growth. RED will continue to support the academic mission, in all its aspects, and respond with flexibility and creativity to the challenges that lie ahead.

Best wishes,



**David Langley**  
Director of Research and Enterprise Development, University of Bristol



One of the projects exhibiting at the Changing Worlds Event is MOSSAIC - led by Professor Malcolm Anderson and Dr Liz Holcombe

## REF Impact Pilot

**The assessment of research impact and its use within the REF (Research Excellence Framework) is new and untested.**

Alongside the RED consultation exercise a pilot has been implemented to test a proposed process for assessment. HEFCE asked 29 institutions, including Bristol, to prepare submissions for assessment which included case studies focussing on high quality research which has generated significant external change alongside an overall statement of impact for the unit of assessment. RED managed the REF pilot for two units of assessment (UoA); Social Policy and Clinical Medicine, working with academic leads in each case.

By taking part in this pilot exercise we have been involved in the development of criteria and have provided feedback to HEFCE. Key lessons that we learned were:

- The importance of local UoA level leadership and on-the-ground knowledge
- There was high (although not universal) buy-in when the objectives were explained

- There was a high volume of impacts and intermediate impacts (those with potential to have significant impact in future) demonstrated by high quality case studies

### Impact Development Awards

We are piloting a programme to help support activity that could help accelerate the potential for research to have impact or perhaps move intermediate impacts forwards. Small scale project funding (typically £15,000) is available for projects which meet set criteria.

### Briefings, Communications and Showcase events

Communicating the impact agenda internally and our existing impacts to stakeholders is important for Bristol and a plan is in place to ensure both happen. For example, the Impact Working Group has been running a series of Faculty and Departmental level talks to help the understanding of impact. An example of communicating to stakeholders is the 'Changing Worlds' event in London in October, where a number of Bristol examples are to be showcased, showing how our research is changing the world.

## Impact Working Group

An increased focus on the impact of research undertaken by UK Universities by Government and other stakeholders has been apparent over the past two years, with, for example, the introduction of Impact Statements in Research Council Grant applications and proposals that impact be used as an assessment criteria in the upcoming Research Evaluation Framework (REF).

In 2009, the University Research Committee established the Impact Working Group, to look at impact as an issue for the University and to respond with communications, assistance and support. The group is made up of Research Directors, academics and representatives of RED, the Centre for Public Engagement and Communications and Marketing.

Whilst the new Minister for Science and Universities has been quoted as being sceptical about methods for the measurement of impact and its use in both the REF and in assessing research funding, it is clear that we will continue to be asked to demonstrate to funders and stakeholders, where our research has and is having impact. The Working Group has been focusing on a number of initiatives in response to the Research Impact Agenda.



Neil Bradshaw, Chair of the Impact Working Group

## Tom Bowker

Tom Bowker is a Research Development Manager for European and overseas programmes, mainly focusing on EU framework programmes. Tom talks about what this means and how his job helps academics...



### Can you explain what an EU Research Development Manager does?

The vast majority of what I do revolves around Framework Programme 7 (FP7) which is the main funding instrument of the European Commission. We identify funding opportunities within FP7, assist the academic community with preparing proposals, and complete negotiations of successful proposals.

### So how can you help academics and why should they come and speak to you?

Because of the complicated nature of EU funding, compared to national funding agencies for example, the proposals themselves tend to be much larger because they're collaborative in nature and involve various institutions across Europe. There's a lot more red tape and paperwork to wade through in comparison to other funders.

We are very familiar with the process and can help guide academics through it. Our involvement can range from responding to emails requesting various pieces of admin information to assisting an academic in coordinating a large collaborative project. We can help them to gather the required information from the partners and generally help with the application itself. There are large sections on implementation and impact within the proposal that we are able to provide feedback on and give examples from previous submissions.

### What are some of the applications that you think have worked well and why?

We've done a lot of work on the European Research Council (ERC) which looks like it's starting to pay off. My colleague Helen Jordan put a major bid process in place for all ERC applications which involves an internal application that is peer reviewed. Therefore by the time applicants are invited to make a full submission to the ERC, it has already gone through various quality checks that have helped to sharpen the proposals. We've had a lot of success with the ERC so it's definitely something that has worked well and we hope will continue to do so.

### What are the emerging trends in EU funding?

Framework Programme 7 has four main areas which include the ERC (funding excellent individuals), the Marie Curie Actions (mobility of young researchers

and training students), and the Co-operation Pillar (collaborative projects across ten thematic areas). The consultations for Framework Programme 8 have already started, even though it's still three or four years away. The ERC has been a success story so I think it's likely that there will be more funding for that. I also think the thematic areas will remain because they seem to work well as do the Marie Curie Actions. I think FP8 will probably try to encourage industry and SMEs specifically, to become much more engaged. There are lots of schemes at the moment where industry must be involved, for example, and I think that will continue and be expanded.

There's a big simplification consultation happening right now in FP7 which will hopefully lead to some of the current complicated rules being removed or relaxed in FP8. This would be extremely well received throughout Europe and should remove some of the barriers for SMEs to get involved.

### What are some of the challenges ahead?

Some of the potential challenges that we might face from recent policy changes in the UK include issues around the immigration cap. I don't know the exact extent to which this may affect us yet but there's a lot of EU funded people who are essentially incoming fellows from outside the EU, for instance Marie Curie incoming fellows, and some European Research Council grantees who may be affected.

**100** Number of EU/FP7 projects with university involvement

**43 million Euros** Value of EU/FP7 projects



YEARS  
UNIVERSITY CARE  
1810-2010

University Hospitals Bristol **NHS**  
NHS Foundation Trust

**Bristol Eye Hospital**  
Celebrating 200 years

**Symposia on Leading  
Advances in Ophthalmology  
from Basic Sciences to  
Health Care Delivery**

16th-18th June 2010  
Bristol Eye Hospital  
and the Bristol Hotel

[www.bristoleyehospital200.nhs.uk](http://www.bristoleyehospital200.nhs.uk)

For details or to book your place,  
email [helen.gilroy@uhbristol.nhs.uk](mailto:helen.gilroy@uhbristol.nhs.uk)

## Andrew Dick

### Tell us one thing about you that we didn't already know?

Working with Shelley James on Sci Art projects. Now about to come to fruition with the developments in refurbishments in the eye hospital, including IAS seminar on blindspots

### Hobbies and interests?

Guitar and playing with Four in a Bar.  
Midlife vespa crisis! Football and Scotland.

## Andrew Dick is Professor of Ophthalmology in the Department of Cellular and Molecular Medicine and Department of Clinical Sciences South Bristol, and Research Director for the Faculty of Medicine and Dentistry.

### **What are your top priorities as Research Director for the Faculty of Medicine and Dentistry?**

My vision is to further facilitate the development of the world-class research we already do at Bristol and to get this to deliver even greater benefits for our patients. A priority is to get greater engagement between university and both primary care and acute trusts in order to facilitate better research.

A good example of this engagement is the BRIG-H (the Bristol and Research Innovation Group for Health) agenda. The fact that we have partnerships between the two universities (Bristol and UWE) and the NHS trusts to work together to promote best health practice is fantastic. As the research director representing the University of Bristol on that group I want to do three things: first to create better interdisciplinary research and consolidate to improve the research environment for laboratory translational science; secondly to create a wish and will throughout the academic and front line NHS services toward an environment and infrastructure generating better evidence and good practice base for our patients; and thirdly to innovate and to do enterprise more effectively with the city and business community.

### **What role, if any, do you see for RED in supporting that?**

What RED already does is provide an independent view, working effectively as it does with its intelligence of the sectors (HEIs, Grant bodies, government and business). That's really important because it's very hard to effectively appraise yourself. For RED is there to say, independently, 'well actually Andrew, you're pretty good at this, but in all honesty Manchester does

it better and London does it better still and even they don't compete with Paris and two other centres in the States'. That's the reality check RED can provide with evidence. It helps me and my colleagues better determine how we maximise the existing strengths of this University and where the opportunities lie and thus how realistically we can compete or better still develop niche areas from the wonderful talent we have. Arguably essential now with the dramatic constriction in central governmental support we will see.

Within the faculty I think opinion of RED is very polarised: people either like RED or they don't. How you get people to value the support RED offers is a difficult challenge. I think RED could have a greater visibility across the faculty.

However I've been at Bristol for ten years and I've seen the considerable difference RED has made to the success of this University and our faculty.

### **Could we do more then, to demonstrate our value or communicate what we do?**

I do think you need to market the message that RED is externally funded – although you need to be careful not to market yourselves as 'us' and 'them'. You should emphasise how interdependent the academic community and RED are. The fact that the University is successful means RED attracts a lot of external funding, which in turn makes the University even more successful which then means RED can be resourced to do more and more. So in fact it's a partnership that works, because RED is not a cost to the University central budgets, and yet RED could not sustain that high level of external funding without the ongoing success of the University.

### **What impact will the tightening of public sector funding have on the Medicine and Dentistry Faculty?**

Funding cuts are an opportunity because it takes you out of your comfort zone, and forces you to innovate more and become focused and ambitious on what you are best at.

Yes, there are some significant risks in the changes to, for example, Wellcome Trust funding and the cut from the latest Budget, but it also offers opportunities. RED can help us further with scoping and intelligence exercises and helping us to engage our researchers to think similarly.

### **What is your prediction for an emerging area of research for Medicine and Dentistry over the next decade?**

There are two things. First is the continuation and expansion of what we do in the Life Course and Genetic Epidemiology. We have a massively increasing cohort of patients, tissue and DNA and we will make considerable inroads into understanding life course events and the influence of our environment and genes on disease. I think this is something that Bristol will lead on and it's very exciting. I hope we will develop that research into influencing how we look at basic cell (neuro)biology, biochemistry and infection and immunology – other strong features within our faculty.

Secondly, as more of a blue sky theme, this University has a huge opportunity to utilise our strength in chemistry, electrical engineering and robotics to pioneer research into neuro-interfaces and develop that not just for communication but for diagnostics, or prosthetics and for understanding cell behaviour.

*continued overleaf* ▶



**How important is influencing public policy for your Faculty? What more could RED do to help?**

I think it's vitally important to our Faculty.

If you look at the great scientists of the past, they have always been engaged in policy making. They had discussions with their scientific peers, with the public and they engaged with the politicians. We should be able to communicate the most complicated ideas in a way that is relevant and understandable to policy makers and the public alike. The return would be greater strength to the university if we foster key opinion leaders who will

influence policy. A key role our leading scientists and clinicians and Dean should embrace.

**Talking about ethics, your colleagues are undoubtedly encountering very complex issues involving human tissue, how are you dealing with this?**

We just get on with it! Academics have learnt over the last ten years how to deal with all sorts of new regulations and ethical and governance issues.

It is a very complex area of governance where both researchers and politicians and policy makers are learning together. Academic researchers need trained people to help.

We couldn't have survived without setting up the structures within the University and within RED to help with that development.

Our faculty has been hit the hardest in this area with clinical trial governance, the Human Tissue Act governance and with all the NHS reforms of the past fifteen years. Although painful, it has enabled us to really adapt in a new way and focus on new opportunities and smartly put systems in place we should be proud of. We have leading opinions for HTA and models of clinical trials governance via RED and in association with NHS trusts that are robust and whose good practice has been an example for other institutions.

**£85,305,000**  
Faculty research income  
– Medicine & Dentistry  
(2005/6 to 2008/9)

**181**  
Number of research  
active staff in Faculty  
(2008/9)

## Non-Executive Director Programme

**RED is leading a programme, on behalf of all the universities in the South West of England, aimed at increasing the number of leading academics recruited onto company boards of directors.**

Academics bring considerable analytical, technical and lateral thinking capabilities which are useful additions to most company board of directors.

We have developed a bespoke two-day residential training programme that covers the roles and responsibilities of Non-Executive Directors, legal

and fiduciary responsibilities, as well as support in applying for roles and performing in interview. These sessions are led by existing senior Non-Executive Directors. We have had great success to date, with twenty-five academic appointments to company boards, including several from Bristol.

The benefits of this programme are an increase in the level of business/university interaction, and the invaluable exposure leading academics get to business and business decision making.

**44** Number of senior academics trained on N.E.D

**25** Number of N.E.D placements

## Collaborative case studies

In 2010, four prestigious collaborative doctoral awards from the Arts and Humanities Research Council, worth £200,000 were awarded to Bristol University's Faculty of Arts

These awards were given for research that involves active collaboration with outside partners and are designed to encourage researchers to use their expertise to work on projects that benefit the wider community.

The awards were given to the Department of Archaeology and Anthropology and the Department of Historical Studies. They will fund four doctoral students, providing them with opportunities to work outside an academic environment and establish mutually beneficial links with the collaborating partners.

*"The Arnos Vale project is a fine example of strong community involvement in Bristol's heritage where our skills and expertise can have real impact."*

**Professor Mark Horton,**  
Supervisor of Arnos Vale Project, University of Bristol

RED was involved in developing all of the award proposals. One of these focuses the Arnos Vale Cemetery Trust. The partnership with the Trust will study the historic landscape of Bristol's famous Victorian garden cemetery.

RED worked with project lead Professor Mark Horton to help secure the AHRC Collaborative Doctoral Award, providing advice and expertise in putting the application together. In addition, RED was able to act as the first point of contact, liaising between Professor Horton (who was in Australia at the time) and the Arnos Vale Trustees.

Another partnership is with Bristol Zoological Gardens. This collaboration came about through the initiative of Bristol Zoo's outgoing director, Dr Jo Gipps, who sought out an academic partner to undertake research into the Zoo's history, making use of its rich but under-exploited in-house archives.

Dr Gipps made contact with RED, which facilitated meetings between the



A photograph from the Bristol Zoo archive from 1901

Zoo and the Department of Historical Studies at the University of Bristol. Together they submitted a proposal for funding, with RED leading on the impact plan and business case for the application.

The result is funding which will allow two PhD studentships to provide material and insights to enrich visitors' experience and deepen understanding of the Zoo's history for both the local community and those working in the fields of social and environmental history.

The final partnership is with Tate Britain and focuses on a previously unexplored area within the national collections of British art: The Classical Nude in Romantic Britain.

The research aims to uncover new insights through close study of particular paintings in the Tate collection, and will allow a doctoral student to develop curatorial and museum skills as well as expertise in the history of British art. As with the Arnos Vale studentship, RED was able to provide advice and expertise in the application process.

*"Collaborating with Bristol University on this important project on the Zoo's history is a fantastic opportunity, particularly as the Zoo celebrates its 175th anniversary next year."*

**Simon Garret,** Head of Learning, Bristol Zoo

# Student Enterprise case studies

Each year the winners of our New Enterprise Competition are announced at the University's Enterprise Dinner. The annual competition is designed to stimulate entrepreneurial talent amongst staff, students and recent graduates.

**The total prize fund of £35,000 was generously donated by our sponsors, Bristol City Council, Business Link, Deloitte, EADS, IP Group, Motorola UK, Osborne Clarke, Santander, SETSquared Business Acceleration Centre, Withers & Rogers and the Wyvern Seed Fund.**

Jennifer Griffiths, a fourth year student, won the competition by inventing an 'e-bay-meets-Facebook' style website designed to find the latest fashions on the Internet. Consumers are able to visit the website ([www.snap-fashion.co.uk](http://www.snap-fashion.co.uk)) and upload an image of an item of clothing or accessory that they wish to find. Software on the site then applies a number of processing techniques to the picture in order to find a match. Snap-fashion was awarded £15,000 plus six months managed office space at the Bristol SETSquared Business Acceleration Centre and free legal advice from Osborne Clarke.

Dr Srilashmi Sharma, a member of staff in the Department of Ophthalmology, was awarded £10,000 as joint runner up for Selo – a low cost device which aids the treatment of

macular degeneration, which is a cause of blindness.

Also winning £10,000 as joint runner up was Shamba Technologies a social enterprise that will disseminate biodigester technology amongst the rural poor of developing countries.

October saw the launch of the Social Enterprise Project – a student society who have already set up a pioneering internship scheme with the Coexist initiative in Stokes Croft and won a national "guerrilla marketing" competition to raise awareness of entrepreneurial career options.

In November, we introduced our first ever alumni-funded Enterprise Scholarship, a £6,000 fund awarded to medical student Luc Bugeja to develop his start-up business from the SETSquared Centre. RED also supported student teams who entered the Stanford University-run 'Global Innovation Tournament' and Bristol supplied more entrants than any other UK institution in a challenge to make saving money more fun.

## £300,000+

Value of prizes awarded to enterprise students

In December, a team of PhD students drawn from Biochemistry, Chemistry and Maths won a national award in the Biotechnology Young Entrepreneurs Scheme (YES) for their healthcare business concept. We also entered more teams into this year's Biotechnology YES and Environment YES competitions than in any previous year.

At the start of 2010, a Bristol team won the first 'Enterprise Varsity' between local universities – competing in a business consultancy exercise for the Bath & Bristol Enterprise Network. The winning team developed a new scheme for encouraging graduate start-ups in the Bristol & Bath city region that won the approval of local business leaders and representatives from business support agencies.

In March 2010 we launched a schools' outreach project taking our social

entrepreneurs into Brislington Enterprise College to run an afternoon-long activity to raise commercial awareness and inspire school students to think about University and running their own business. We hope that this scheme will expand in the next two years to include events for around a dozen Bristol schools.

In April, a team of Bristol students reached the finals of the national FLUX 2010 business-planning competition with their ideas for removing the barriers for people struggling to secure employment.

And in May, we finally opened the door to our new student business incubation space – Basecamp – a hot-desking space for student entrepreneurs, complete with secure storage, business resources, and space for meeting with clients.

# Impact DeciPHer



Professor Rona Campbell (Social Medicine, University of Bristol), and Professor Laurence Moore (Cardiff University), recently founded a new company, Decipher Impact Ltd, in order to disseminate a validated peer-support programme aimed at reducing smoking uptake by Year 8 (age 12/13) school children.

The programme was devised initially within the universities and evaluated as part of an MRC funded randomised controlled trial which showed that, if implemented across the UK, the programme could prevent 40,000 children each year taking up smoking. The NHS in Wales, Tower Hamlets Borough Council, and NHS Bristol are early implementers. SmokeFree South West is now funding a rollout via 10 PCTs across the South West.

This intervention fits well with national objectives – being perfectly aligned

with a recent tobacco control White Paper which emphasises prevention and with NICE guidelines on effective methods to reduce smoking, the recommendations of which include peer supporter models.

## Seven

Number of active Knowledge Transfer Partnerships

## £1,017,166

Total value of active KTP projects



## SETsquared Business Acceleration Centre

The award-winning business incubation centre at Bristol, part of the SETsquared Partnership of Bath, Bristol, Southampton and Surrey universities, accelerates early-stage, high-tech, high-growth businesses. 90 percent of the forty businesses it supports come from the local community and as a result provides the University with direct and indirect connections into the local and regional business community.

The Centre, based at University Gate East, supports companies within the semiconductor, medical device, instrumentation, software, web, renewable energy and biotechnology sectors. It provides coaching, mentoring, workshops, investment readiness training and access to regional, national and international investors.

The SETsquared team helps accelerate the growth of businesses based in the Centre. Often this is about providing encouragement and reality-checks for entrepreneurs and specific, experience-backed support

for technology start-up founders, who frequently experience difficult periods of transition.

Since the start of 2008, companies supported in the Centre have raised over £45 million of debt, equity and grant funding and the current member companies employ over 260 people.

## Sixty-four

Number of companies supported in Bristol SETsquared Centre (since 2008)

## £45,000,000

Money raised by companies in Centre (since 2008)

[www.setsquared.co.uk](http://www.setsquared.co.uk)



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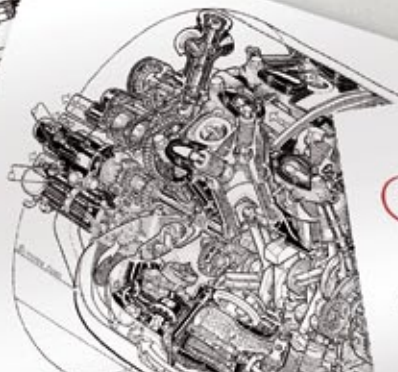
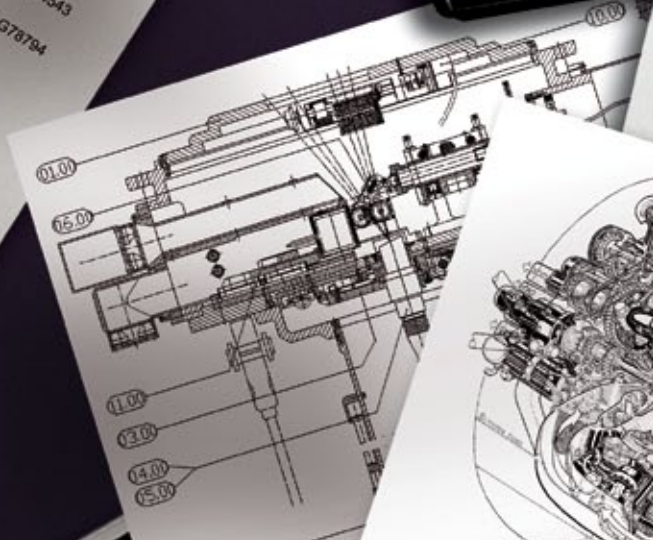
### Contracts Team

**Tell us one thing about you that we didn't already know?**  
There is a Contract pub quiz team called "The Contract Killers".

**Hobbies and interests?**  
Restoring an old sports car, Brazilian Jiu-Jitsu, volunteer worker on a steam railway, Football, Archeology, Film, music, rugby, reading modern literature.



REF: 00234543  
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Invoice to:  
SBC Technical Services Ltd  
47 Great George Street  
Bristol



Research & Enterprise Development  
Serate House  
Tyndall Avenue  
Bristol  
BS5 1TH  
Tel: +44 (0)117 928 8676  
Fax: +44 (0)117 929 8383  
www.bristol.ac.uk/red  
Direct tel: +44 (0)117 928 8676  
e-mail: finance@bristol.ac.uk

## Contracts Team

**Christine Nileshwar is a Senior Contracts Manager based in the University's division of Research & Enterprise Development (RED). We asked Christine to provide an insight into the world of contracts and the RED Contracts Team...**

**The RED Contracts team is a key interface between University of Bristol academics and our research funders and collaborators. We have responsibility for negotiating deals acceptable to all and ensuring these are clearly captured in legal agreements. As one Principal Investigator, (P.I.) once remarked after a successful negotiation with a funder – "thanks for making things favourable to us and acceptable to them".**

A key part of the job is liaising with all parties involved to enable us to negotiate agreements that meet everyone's needs - even if compromises are required. This can involve anything from one to twenty or more parties per project! The P.I. is usually involved throughout, although we aim to spare them the bulk of the negotiations. We also draw upon expertise from all sorts of University central sources, such as the Insurance Office, to ensure the interests of the wider University are protected.

Terms that can threaten such interests include those that would cause the University to breach its legal obligations, those that restrict the University's future research activities, and those that expose the University to uninsurable liability such as for harm caused by the negligence of other partners. Marrying the wishes of a commercial company with those of the University is often challenging; however, even greater diplomatic skill is required when the priorities of the P.I. and the wider University differ!

We aim to make the University an attractive partner to work with, providing a professional service and working with regular funders/

collaborators to streamline processes. For example, putting into place framework agreements or generating template agreements that can be used time and again. Each Contracts specialist may typically be negotiating seventy contracts at any one time, ranging in value from zero (e.g. confidentiality agreements) to several million pounds. Yet all are important to the P.I. concerned. A key skill is the ability to juggle priorities and keep everyone happy!

In one way, our success can be measured by silence – if no legal issues arise in the life of a project, then this is a good indication that we have achieved the balance required.

By ensuring all is clear at the outset, good contracts vastly reduce the chances of the University getting involved in disputes. This is obviously good as it helps protect the University's research, reputation and relationships, and saves it time and money. Of course, research by its very nature is complex and changeable – another important aspect of our role being to help and advise researchers when contractual changes are needed to reflect unexpected variations in projects.

So what are the best parts of the job? These are varied.

Knowing we've negotiated better or fairer terms for the P.I. and the University. This can include ensuring the University can publish research results, or ensuring a fair price is received. An example of this latter category arose when a company renewing a contract imposed significantly more stringent reporting requirements – we successfully

negotiated a funding increase to cover the additional costs involved. The most interesting cases are the unusual and complex ones where we're required to pick up the strands of a proposed collaboration and pull everything together into coherent documentation acceptable to all parties so that the research can go ahead. For example, the NIHR HTA funded DUTY collaborative study required the negotiation of a series of eleven agreements, covering a complex and diverse portfolio of project roles and responsibilities, from participating site agreements for centres recruiting subjects, to two co-chief investigators at collaborating institutions. As for the unusual, coordinating the legal documentation for the now well known case of the first transplant of a tissue-engineered trachea using the patient's own stem cells was certainly the most extraordinary case I've ever handled!

Finally, it's a fact that no two days are the same. We need to have at least a basic understanding of a study's objectives and outputs, therefore we get to talk to some fascinating people and hear about all kinds of different research.

**4,463**  
Number of  
contracts  
processed  
(over the last  
three years)

## Did you know?

The University of Bristol's Contracts team:

- Handled around

# 1,600

legal agreements last year, those involving research and consultancy projects bringing roughly

# £70 million

into the University.

- Regularly spends time in Faculties and Departments in order to develop a closer rapport with the academic community and are on hand to deal with contractual issues as they arise; examples are Medical Sciences, Earth Sciences, Oakfield House and Langford.
- Between them have academic qualifications ranging from law, through natural philosophy and English to Anthropology and Business Management. Relevant experience has been gained through roles in individual research, government, solicitors as well as in other universities.

## Project Management at the University

### Future Fast Aeroelastic Simulation Technologies (FFAST)

FFAST is a £2.7 million European FP7 project, jointly lead by Ann Gaitonde and Dorian Jones in the Department of Aerospace Engineering, bringing together thirteen partners from across Europe, Russia and South Africa to develop and assess a range of numerical simulation technologies to accelerate future aircraft design.

Dr Gaitonde and Dr Jones approached RED for advice and support in managing the project. RED's European team supported the bid and its financial arrangements.

Post-award, a RED project manager has been setting up the necessary processes and best practices to ensure compliance with the EC contract, effective relationships and controls through the partner collaboration agreement and smooth implementation of the project covering planning, finance, website, project handbook and report management processes. RED's project management allows the academic team to focus on the technical work.

Through this and other EC activity, RED has developed generic support and processes applicable to EC work; a capability giving the academic community increased confidence to take a lead in coordinating EC projects and significantly enhancing our ability to tap into the 50 B€ FP7 research budget.



## Forty Six

Number of contracts Project Managers involved in (2007-2010)

# £201,830,000

Rolling value of Project Management contracts (2007-2010)



## Derek Sheader

Derek Sheader is a RED Technology Transfer Manager with a specific responsibility for Biomedical technologies. We asked him to explain what technology transfer is all about.



### So what exactly is technology transfer?

"The term technology transfer covers a wide range of activities that are necessary to help get the results of academic research out of the University and into the marketplace," says Derek. "We as a University have a duty to seek to maximise the social and economic benefit of our research. Working with academics to help transfer novel inventions out into the wider community, and encourage their use is an important part of achieving that goal."

It transpires that the word 'invention' is a very loose term and can mean any number of things such as a new technology, a potential new drug, a cell line, a methodology, screening techniques, genomics, a diagnostic test or even an idea which may need further work up. With a degree in biochemistry and PhD in toxicology Derek is very much involved in technologies arising from the departments and schools that make up the faculty of Medicine and Dentistry. "The job is often more reactive than proactive", says Derek. "But we do try to encourage and promote commercial awareness to

academics so that they keep any enterprise opportunities in mind. We do this through our own marketing and seminars and through heads of departments and other key academics within departments."

Derek's job means he has his feet in two camps: one with university and academics, who are working at the cutting edge of science; the other in the commercial world where new inventions might be developed further into marketable and useable products. Derek works closely with academics to evaluate, and where appropriate to patent novel technology. He also works to identify companies (mainly biotechnology and pharmaceutical companies) or venture capitalists who might be interested in taking a technology further as well as negotiating terms and agreements with them. "Inventions arising from research are by their very nature often at a very early stage of development. This makes successful commercialisation a challenge and a flexible approach essential. Normally we 'licence' rights in technologies to established companies", he explains. "In this way we can set our own terms by which the company may develop and utilise the technology while seeking to protect both the University's and the academics interests, for example to prevent a company 'sitting on it'. The University will seek a fair share in any future success of a technology. This can take many forms but usually includes a financial return, for example at each stage of a technology's development, entry into the marketplace and future royalties.

In some circumstances it is more advantageous for a university to set up its own company to develop a new technology. This could be because

there is no existing company that has the expertise and will to develop something that is brand new. These are called 'spin-out' companies of which Derek says Bristol sets up about 1-2 per year. In this case experienced management is put in place and the technology is developed much further, sometimes even right through to the point of selling. The success of the new business is reliant on continuing financial input which doesn't come from the government or the university but from venture capitalists with whom Derek negotiates to convince them to invest.

Before joining the University, Derek worked at the Aber BioCentre in Aberystwyth, an organisation that at that time included the BBSRC Institute for Grassland and Environmental Research.

*Credit:*

*Original article produced by Sarah Blackford*

# 154

Total number of active licences over the last 3 years

# 150

Total number of patents filed over the last 3 years

# £778K

Total license income over the last 3 years

# National Composites Centre

The South West has been named as the location of a new National Composites Centre (NCC) as part of the UK Composites Strategy, announced in November 2009. The centre will be led by the University in partnership with industry.

The NCC marks a further milestone in the development of a low-carbon economy. It will be an independent, open-access national centre to help deliver world-class innovation in the design and rapid manufacture of composites and enable widespread industrial exploitation.

The centre will form an international hub, linking activities across all sectors of the UK in research, education and training, technology transfer and incubation of new enterprises.

The state-of-the-art centre will be supported with £25 million of public-sector investment comprising £12 million from the Department of Business, Innovation and Skills and £4 million from the South West Regional Development Agency (SWRDA). Public-sector

investment will be supplemented with contributions from some of the world's leading engineering companies. The South West was selected as the centre's location because the region is one of the most significant developers of, and investors in, carbon-fibre composites, and has some of the most important and advanced end-users and exporters in the country. It is estimated that in excess of £450 million has already been committed in composite-related investments (from the public and private sectors) in the region in the last six years.

The University will oversee the construction of a purpose-built, 7,000-square-metre facility with workshop space, open-plan offices, meeting rooms and teaching facilities, in collaboration



Jim Knight MP (left) with Professor Michael Wisnom, at the launch of the National Composites Centre

with the University and industry partners. These 'Tier One' partners currently are Airbus, GKN, Rolls-Royce, Augusta Westland, GE, Caterpillar and Vestas. The centre will be located in the Bristol area and will be operational by 1 April 2011.

Dr Neil Bradshaw, Director of Enterprise at the University of Bristol said "The University, in

partnership with international partners, has already made great progress in the development of new industries and technologies in the region. For example, the Composite Structures Development Centre which is part of National Composites Network based in Airbus at Filton has already developed cutting-edge wing design for the international market."

"We are proud to be playing a central role in the establishment of a facility that will be of major significance to south-west England and the UK as a whole. It will reinforce our already close links with industry and yield a range of academic, economic and practical benefits."

**Professor Eric Thomas,**  
Vice-Chancellor of the University of Bristol

**£25**  
million  
NCC Capital  
Grant income

**Seven**  
Number of  
Founder corporate  
partners

**The Severnside Alliance for Translational Research (SARTRE) is a unique partnership between the University of Bristol and Cardiff University. SARTRE is a focal point for interactions with external partners such as Bio-pharmaceutical companies and a key objective is to work with the health and scientific community across Bristol and Cardiff to create a leading translational research hub in the South West and South Wales.**



It was established with strategic funding from the Medical Research Council (MRC) with additional support from Bristol and Cardiff universities and the Wales Office of Research and Development (WORD), Welsh Assembly Government.

SARTRE is building capacity and aligning its translational research programmes through regular networking meetings and targeted research programmes. From April 2009, SARTRE received one of only five 12 month MRC devolved portfolios for the Developmental Pathway Funding Scheme (DPFS), allowing local decisions for funding in an iterative process with a rapid turnaround. The devolved funds are now

committed to three large projects of around £400,000 and four smaller projects of under £30,000 being made to Bristol.

The SARTRE team are also in regular contact with the Bio-pharmaceutical industry across the world as well as local SMEs looking to align their interest with those scientists in the network that can respond to those needs. It is increasingly recognised that the development of new therapeutic strategies will require a cooperative effort and new 'open innovation' type models will need to be developed.

SARTRE is working with various stakeholder groups in the universities

and in companies to generate new and productive ways to interact.

Further information on SARTRE can be found at [www.sartre.ac.uk](http://www.sartre.ac.uk)

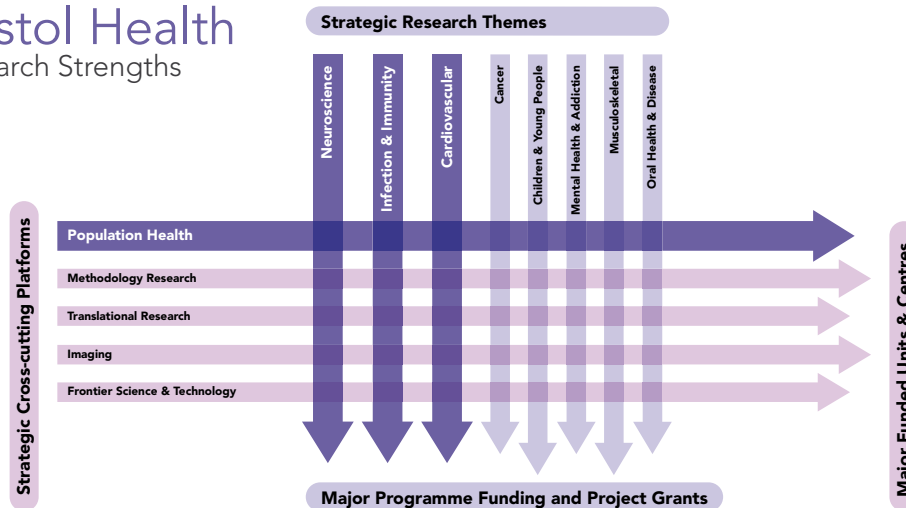
*"The University of Bristol and Cardiff University both already have a very strong reputation in basic and clinical research and are ideally positioned to take advantage of new initiatives from the public sector, as well as the increased interest in partnering from the private sector."*

**Professor Lars Sundstrom,**  
Professor of Practice, SARTRE

# BRIG-H

The Bristol Research and Innovation Group for Health (BRIG-H) is a vibrant and ambitious Bristol-wide strategic research and innovation partnership dedicated to maximising research and innovation for the benefit of patient health.

## Bristol Health Research Strengths



**BRIG-H brings together the University of Bristol, the University of the West of England, the University Hospitals Bristol NHS Foundation Trust, North Bristol NHS Trust, NHS Bristol and the Avon and Wiltshire Mental Health Partnership NHS Trust.**

Across Bristol, the BRIG-H community is focussed on addressing our four major health challenges: staying healthy, health inequalities, ageing and well being and stratified or personalised medicine. To deliver solutions to these health challenges, Bristol is investing strategically; building capacity and quality in complementary and synergistic research areas; providing new state-of-the-art research-enabling facilities; forging major new cross-disciplinary collaborations; and creating a more integrated, streamlined and responsive health research community. BRIG-H is working to improve the health of people in Bristol, the UK and beyond by fostering excellence in our people

and infrastructure; through better co-ordination of research, innovation and resources; by facilitating collaboration and removing barriers; and by creating new opportunities for research, innovation and career development.

RED has been involved from the outset in the development and evolution of BRIG-H. We are collaborating closely with our colleague in UWE and in the NHS Trusts to develop and drive the strategy forward and to provide a seamless working environment for our stakeholders. RED's Director sits on the Leadership Executive where Chief Executives, Vice-Chancellors/PVCs agree major changes to the way our organisations work together in Bristol.

RED provides a full-time Programme Manager who works closely with the Dean of Medicine and Dentistry and Research Directors across the partnership to develop a sustainable strategy and with R&D managers to

deliver changes in culture and organisation. These include the leaders of our Research Development and Governance teams who are members of BRIG-H's operational board.

Almost all the professional teams in RED are involved in BRIG-H in some way; Research Development is helping to support the Medical Faculties in their involvement in BRIG-H themes and to engage more widely across the University; Contracts are involved in drafting new cross-institutional collaborative agreement templates; and we are developing joint training courses. BRIG-H is not just about research, it is also about creating a more agile and innovative health research community. RED's Director of Enterprise chairs the Innovation Working Group together with RED's Senior Technology Transfer Manager and the Innovation Leads from across the partnership to drive forward this agenda.

# Ice pigging technology wins prestigious award

In 2009, a pioneering start up company from the University of Bristol won a national award for its innovative technology.

PCIP Ltd, a start up company from the Department of Mechanical Engineering has been working with Bristol Water for the last five years, with the support of Bristol Water's parent company Agbar, to develop applications of the technology in the water industry.

PCIP Ltd, led by Professor Joe Quarini, Professor of Process Engineering, focuses on bringing 'ice pigging' to commercial fruition. Ice pigging is the term given to a process of

freezing water containing a freezing point depressant to form a very thick ice slurry. This slurry is then pumped through pipes and ducts, and as it moves through the complex topology, it shears the fouling material off the wall leaving clean process equipment.

As Professor Quarini explains: "The ice pig is actually a mass of crushed ice that is pumped into the piping. Ice particles are abrasive and so they clean the inside of the pipe as they go.

Crushed ice is easy to pump and is self-lubricating; it behaves like a semi-solid, penetrating and filling the most complex of topologies. It can not get stuck and

when it has done its work, it melts into water."

Quarini's team used commercial ice makers that freeze water into a slurry and stir as it forms, keeping the ice crystals small. The freezing point depressant stops the crystals from freezing together and forming a solid plug.

While Bristol Water holds the licensing rights for ice pigging in the water sector, the University of Bristol can exploit it elsewhere. Quarini is in talks with the nuclear industry, where he started his career, to develop the technique for use in decommissioning, where the ice would sweep away grouting and metal components in piping.

"Ice pigging is an innovative technology that will provide companies with significant potential cost savings due to reduced plant downtime as well as being environmentally sustainable as it is made out of water."

**Professor Joe Quarini**, Professor of Process Engineering, University of Bristol

**£450K**  
Amount of income ice pigging has generated over the last 3 years



Ice Pigging technology in use in a project in Barcelona

# HIGHLIGHT REPORT | 09/10

Research and Enterprise Development  
at the University of Bristol



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in an alternative format (e.g. larger  
format or audio tape), please  
telephone +44 (0) 117 928 8676  
fax +44 (0) 117 929 8373  
or e-mail [Red-Office@bristol.ac.uk](mailto:Red-Office@bristol.ac.uk)

**University of Bristol**  
**Research & Enterprise Development**  
Senate House  
Tyndall Avenue  
Bristol, BS8 1TH

[www.bristol.ac.uk/research](http://www.bristol.ac.uk/research)