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Welcome from the Vice-Chancellor



Energy is a word that is used increasingly in conversations around the world and, its location, creation and sustainable use is something that will have a significant impact on all of us in the coming years.

Energy also emerges as an increasingly strong theme linking the many and diverse activities of the University of Bath. From the tremendous bursts of energy that propel our student athletes to success, exemplified by Amy Williams and her amazing gold medal winning performance in the bob skeleton event at the Vancouver Winter Olympics 2010, to the global impact of our research on sustainable energy generation and usage.

We are a truly international community. We now have over 73,000 alumni located in 150 countries around the globe and nearly 30% of our academics are international with approaching the same proportion amongst our student population. We have formal institutional partnership arrangements with universities in China and India and we were one of the first universities in the UK to form a partnership through Santander Universities.

Nationally, we continue to contribute to economic growth through a range of technology transfer initiatives. We have recently expanded our Innovation Centre, located in the City, to provide improved conference, training and meeting room facilities. The Centre now has around 60 member companies, of which 16 are resident and the balance are virtual. It supports business sector networks for low carbon technologies, microelectronics, mobile/wireless communications, and assisted living.

Regionally, we have assumed a leadership role in outreach initiatives to promote Science, Technology, Engineering and Mathematics (STEM), as one of six partner universities tasked with delivering the national Higher Education STEM Programme. We also continue to provide a regional leadership role in the provision of vocational higher education through the Western Vocational Lifelong Learning Network.

Closer to home, our campus has been transformed over recent years, through some of the most significant estates projects in the University's history. The new 4 West Building, with its innovative, energy efficient, concrete cool system, perfectly illustrates how we can re-vitalise our older buildings. Its Graduate Centre provides a focal point for postgraduate networking and training; its Student Support Centre provides a central point for advice, help or support; and its 4 West Café is a hub for informal meetings and social discourse.

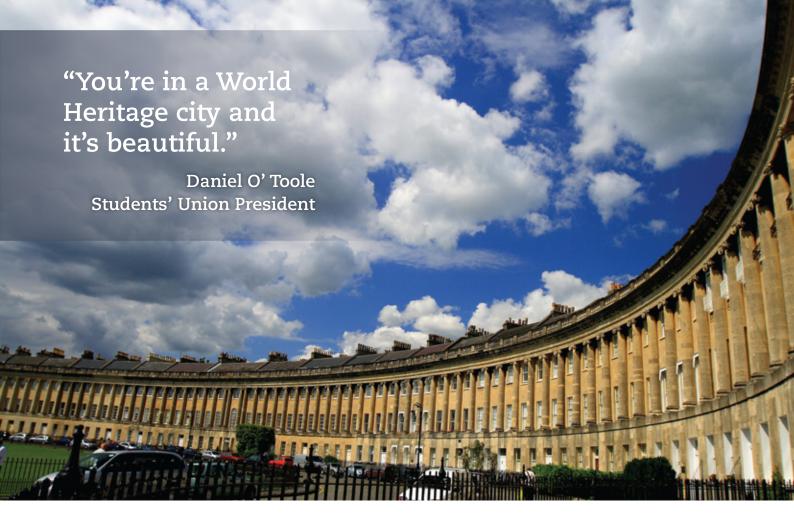
Other major projects have also significantly improved the quality of our student experience. In creating the new, high-specification Student Centre, we have delivered high quality social space and easier access to a range of excellent Students' Union facilities and services. The refurbished study bedrooms and upgraded teaching rooms across campus have all been warmly received.

Sustainable construction is one area of research currently being pursued through our BaleHaus project, which is evaluating the use of straw and hemp as basic building materials. We also have research strength in the field of sustainable energy and technologies which was recognised by the EPSRC with a multi-million pound grant to establish a Doctoral Training Centre in Sustainable Chemical Technologies. The Centre subsequently benefited from the University's first philanthropic donation worth £1 million from Roger and Sue Whorrod.

Sustainable use of energy is not just a theoretical challenge for us but also a practical, unifying purpose. Departmental energy champions, resident students, and the wider campus community have all contributed to delivering an absolute reduction in our energy usage.

Our success in all these arenas would not be possible without the energy, enthusiasm and initiative of our staff and students across campus and the University's wider, global community.

Professor Glynis M Breakwell Vice-Chancellor



A world-class University....

Our campus overlooks the World Heritage City of Bath. It has outstanding sports facilities, a brand new Student Centre and a vibrant community culture.

Our research excels across science, engineering, management social sciences and the humanities influencing national and international policy debates and contributing to sustainable development and technology, new drugs, machines and systems.

We attract students from around the world. A quarter of our students are international and we have more than 73,000 alumni globally.

....making a global impact

Delivering excellence

Since our campus was built in the 1960s it has been constantly evolving. We are currently in the throes of completing a £110 million campus refurbishment and enhancement programme of our teaching, research, social and residential space.

Our Students' Union is one of the best in the UK, ranked in the top three by the National Union of Students (NUS).

Our £35 million Sports Training Village has been chosen to host the Paralympics GB team's preparation camps.

We run one of the largest and best-established work placement schemes in UK higher education which makes a major contribution to the employability of our graduates.

We have a wide-ranging reciprocal sports and academic agreement

with the Malaysian Government including providing a base for the national team in the run up to the 2012 Olympic Games and 2014 Commonwealth Games.

More than nine out of ten

students surveyed by the Times Good University Guide say they would recommend the University to family and friends.

We have a global network of partners in business, the professions, the public sector and the voluntary sector.

We employ more than 2,500 staff which makes us One of the biggest employers in the area.

More than 600 of our students volunteer annually to help in the community in roles ranging from mentoring school children to organising fundraising events.

Our BaleHaus won the Innovation Award at the South West Built Environment Awards 2010. BaleHaus is an environmentally sustainable house made out of pre-fabricated straw and hemp panels instead of bricks. It was officially opened by Channel 4's Grand Designs presenter Kevin McCloud.

Amy Williams, a Bath graduate and University-based elite athlete, won the UK's only gold medal at the 2010 Winter Olympics in Vancouver and was then awarded an MBE in the Queen's Birthday Honours list.



Sir James Dyson, a

leading UK entrepreneur, opened our new 4 West building and was impressed by its forward-thinking design. 4 West provides high quality research, teaching and social space, including a new Graduate Centre and Student Support Centre.

Our Innovation Centre in

the City of Bath provides practical support and expertise to local technology enterprises as well as staff and students who wish to launch their own businesses.

We are **one of six universities** chosen to deliver the National Higher Education STEM programme, a £21 million initiative funded by the Higher Education Funding Councils for England and Wales to promote Science, Technology, Engineering and Mathematics (STEM).

We have a 24/7 library with more than 500 personal computers plus laptop docking points.

Our Careers Advisory Service has links with over 4,000 employers and 81% of employed first degree graduates move into top level jobs (compared with 62 per cent nationally).

Our Institute of Contemporary Interdisciplinary Arts (ICIA) runs a programme of professional

runs a programme of professional performances, exhibitions, talks, films, workshops and classes for students, staff and members of the public.

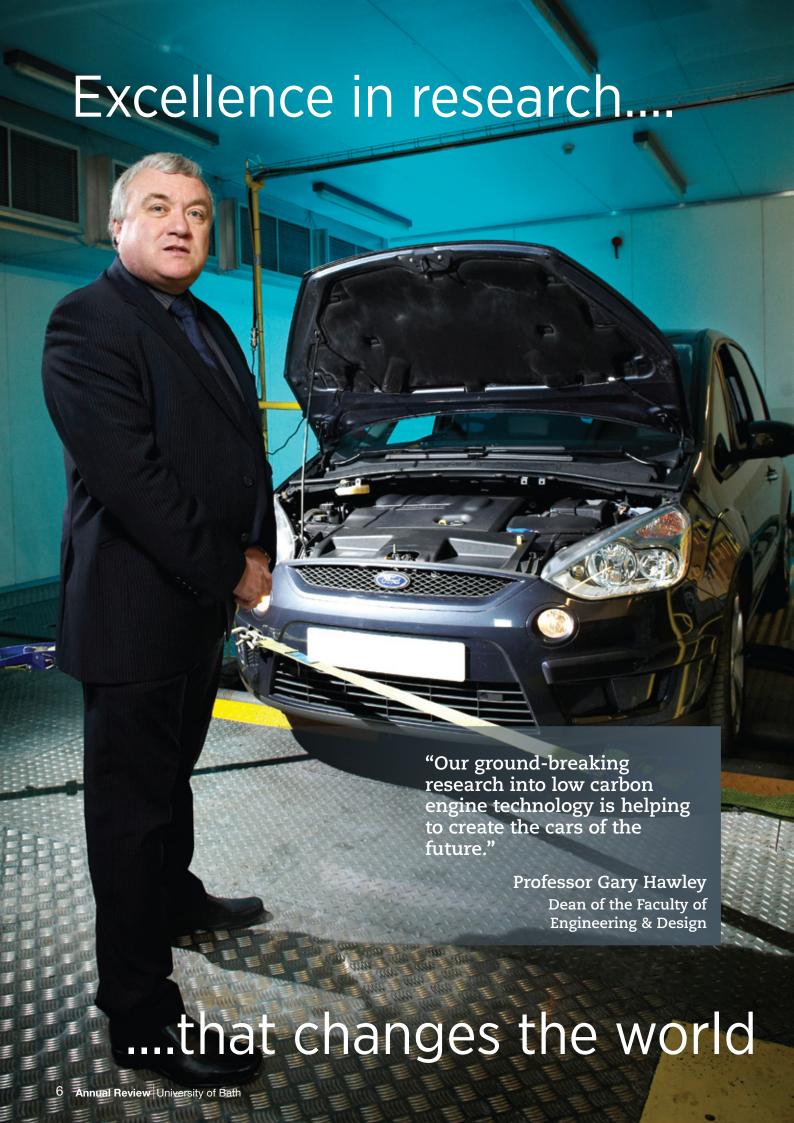
Our Tennis Academy holds International High Performance Centre (IHPC) status from the Lawn Tennis Association, marking it out as one of the top four training centres in the country. Our new Pharmacy Practice teaching laboratory uses state-of-the-art technology to teach future pharmacists how to prescribe and dispense medicines safely, allowing students to practice diagnosing conditions using SimMan 3G – a life-like robotic patient.

our School of Management

runs the Bath Entrepreneur in Residence Scheme (BEiR), providing students with access to some of Britain's most successful entrepreneurs and helping them to enhance their entrepreneurial talents and business skills.

We hold a Bronze Athena SWAN (Scientific Women's Academic Network) award, recognising our commitment to women's career progression in Science, Engineering and Technology.







Making a difference

Research can change people and change the world. At the University of Bath our mission has always included a commitment to using research to make a difference.

We not only seek to promote scientific excellence but also to maximise the application and use of our research. This research involves a range of disciplines in science, engineering, management and social sciences. The results of the 2008 Research Assessment Exercise confirmed our position as one of the UK's top research universities.

Our research is published in peer-reviewed journals, presented at international conferences and widely cited in academic outputs. It attracts external funding from a range of external bodies, including the Research Councils, government bodies, charities and industry.

Research at Bath is tackling important issues for society and contributing to economic, social and cultural developments. Research impact is a complex topic and can mean different things in different discipline areas. It includes tangible and measurable outcomes such as new products or new processes with direct economic benefit. It includes the development of new policies and practices, improving the way we do business or deliver services. Impact also includes more qualitative contributions: changing ways of thinking about the world, for example, or changing behaviour to promote health and well-being. The impact of research is part of a social process that takes place over time and requires an ongoing and open dialogue between research producers and research users. Impact is not just something that follows after the research has been completed; it is part of the research process at all stages.

Fuel efficient, low carbon cars: 25 years of engine research

We have a 25-year history of collaboration with Ford Motor Company which, for the past ten years, has focused on fuel economy and cutting CO₂ emissions.

This collaboration has resulted in improvements across the range of engines within millions of passenger cars, such as the Focus, Fiesta and Ka. For example, in terms of carbon emissions rating, Ford now offers several A-rated models, producing less than 100g/km of CO_2 which simply didn't exist three years ago.

Professor Gary Hawley, Dean of the Faculty of Engineering & Design (pictured left), said: "Passenger cars in the UK produce around 72 million tonnes of CO₂ every year, but over the last ten years this has been gradually reducing through advances in engine technology, vehicle dynamics and greater use of lightweight materials."

Our research has focused on enhancing the fuel economy of diesel-powered passenger cars and has shown that the accumulation of a number of small but measurable improvements can make a significant impact. Improvements to the layout, operation and control of vehicle engine cooling systems have led to fuel economy savings of up to two per cent. New oil pump designs will feed into the next generation of lubrication oil formulations and should deliver a one per cent fuel economy saving.

Professor Hawley said: "A one per cent improvement in fuel economy represents 750,000 tonnes of CO₂ saved each year if applied to all passenger cars. Here at Bath we are working to achieve a ten per cent fuel saving."

lan Pegg, Senior Research Engineer at Ford Motor Company in Essex, added: "Working with the University, we can look at things differently. In industry, it's very easy to get stuck in a rut and take things for granted, but the academics challenge and investigate measurable benefits."



We are innovative and influential.....



Helping to reduce injury in the armed forces

Dr James Bilzon, Director of Studies for the Sport & Exercise Medicine Programme, has worked closely with the Army Recruiting & Training Division for the past ten years to reduce the incidence of musculoskeletal injuries. His research resulted in the formation of single-sex platoons after he found there was a higher incidence of injury in females than in males in mixed training groups. After a 12-month evaluation, women were achieving the required level of operational fitness with a huge reduction in injury, which now stands at a similar rate as that of their male colleagues.

Dr Bilzon also carried out an in-depth study into the Parachute Regiment's training which resulted in a complete overhaul of the 26-week training programme, including the introduction of a fourth meal in the evening and a more rigorous selection procedure to ensure the best candidates were joining. First time pass-out rates increased to 58 per cent and discharges due to musculoskeletal injuries decreased to 5.1 per cent.

"In science, engineering, technology and sport Bath has few peers."

Sunday Times University Guide



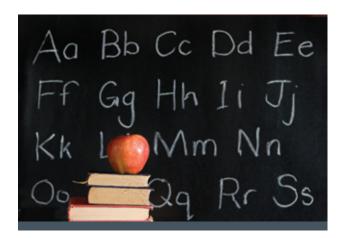
New drug technologies: delivering medicines without injections

Research teams at our Centre for Drug Formulation Studies (CDFS) have developed treatments for respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD) which help control the symptoms and increase the quality of life for sufferers.

Drugs delivered through an inhaler are formulated to pass directly into the airways, but the particle size is crucial, with old-style inhalers delivering approximately 20 per cent of the dose to the respiratory tracts.

Research at the CDFS resulted in significant progress in overcoming this issue by including pharmacologically inactive materials within the formulation to modify how individual drug particles interact. Now, around 50 per cent of the dose is delivered consistently.

Vectura Group plc, which was born in the Centre, focuses on the development of pulmonary products using its proprietory inhaler device and formulation technologies. The company has eight products marketed by its partners and a portfolio of drugs in clinical and pre-clinical development, some of which have been licensed to major pharmaceutical companies. In July 2010 Vectura signed a dry powder formulation licensing deal with GlaxoSmithKline worth £20 million.



Expert input into primary school overhaul

Nine academics from our departments of Education and Social & Policy Sciences were involved in the Cambridge Primary Review which aimed to prompt a rethink of the way primary school education is delivered.

The report looked at how primary schools are performing, how children live and learn during their early years and whether government efforts to raise standards have been effective.

It set out 75 recommendations which included looking at the feasibility of raising the school starting age to six years old and 'narrowing the gap' by giving priority to those children whose lives are blighted by poverty, disadvantage, risk and discrimination.

It drew on more than 4,000 published sources together with 28 specially-commissioned research surveys, four of which were written by academics at Bath.

The report found that since 1997 investment in primary education has risen dramatically, that many policies have had a positive impact, and that primary schools provide stability and positive values in a world of change and uncertainty.



Academics selected to present prestigious exhibition

A team of our academics were honoured to be invited to take part in the Royal Society's Summer Exhibition to mark its 350th anniversary in 2010.

Professors Chris Budd from the Department of Mathematical Sciences and Giles Hunt from the Department of Mechanical Engineering led the team behind this exhibit, which involved other academics from the universities of Bath and Bristol.

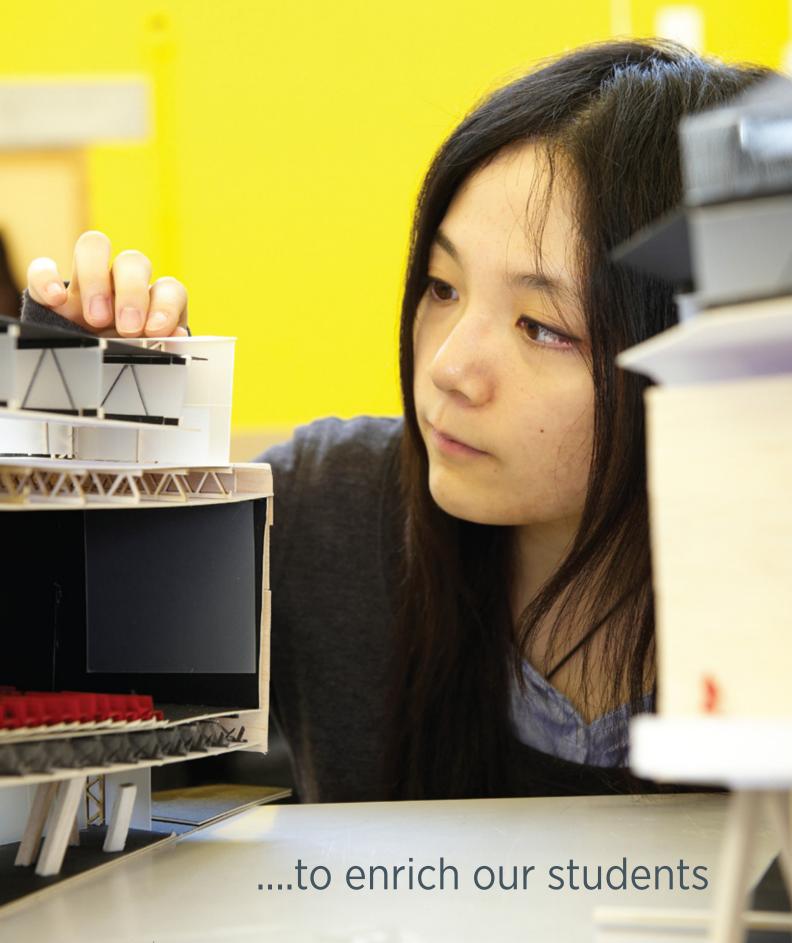
The theme of the display was 'Living in a Complex World' and was chosen, along with only 25 others, from 160 applicants.

The exhibition used hands-on demonstrations to illustrate that, whilst the world appears to be a very complex place, science can help us to understand it.

By exploiting this understanding of complexity we can apply science and mathematics to ever more diverse applications such as waves in crowds, transport networks, flocking in birds or even the ways that ideas can spread over the Internet.

....with good industrial connections

Creating life opportunities....



We are a first choice destination for students in an increasingly competitive international recruitment market. Students are attracted by our excellent academic reputation, our outstanding graduate employment record, our world-class sports facilities, and the wide array of other social, recreational and personal development opportunities we offer. Our ability to offer placement options across our discipline base, and with leading organisations, is unique among UK research universities. Our graduates have excellent employment prospects, not only because of their discipline specific knowledge and skills, but also because of the emphasis we place on developing well-rounded, enterprising individuals with high aspirations.

Challenging Placement Opportunities

We take great pride in our reputation for finding interesting and challenging work placements for our students - providing them with excellent employment opportunities and career prospects.

"About 60% of students undertake a business placement and 85% of them gain graduate-level jobs, ranking Bath seventh in the UK."

Sunday Times University Guide

These opportunities can take students around the world with placements as diverse as joining Antarctic expeditions to working on the trading floors of City of London banks. It is also an opportunity for them to earn a wage and to make contacts that can lead to future employment at a time when getting a foot in the door of the workplace has never been tougher.

Most placements are paid positions, others are provided through the generosity of our Alumni Fund, allowing students to benefit from unique experiences which they wouldn't otherwise be able to afford.



Architecture student Lauren Li undertook a placement in Japan, with world-leading architecture firm Kengo Kuma & Associates before returning to Bath for the fourth year of her degree.

The placement was a requirement of her course and she was able to choose the location herself.

Kengo Kuma & Associates, based in Tokyo, is run by architect Kengo Kuma, who is also a Professor at the University of Tokyo. The firm is well known for its unique design styles and has offices in Beijing and Paris.

Lauren said the three-month placement was invaluable to her understanding of working in the architecture industry: "Kengo Kuma has been my academic idol since the first day I started architecture study and I have studied his theories by reading several of his books. The company is very good at interpreting architectural ideas from making elegant models, which is still a good habit to learn despite computer technology.

"I learnt a lot about the dedication and skills needed within such a creative and competitive industry."

Lauren, who is from China, also learnt basic Japanese during her placement and enjoyed the cultural aspects of Japan.

She said: "I wanted to come to Bath because the Architecture Department is world-renowned and I hope this will help me find the job that I am looking for."

An inspiring learning environment....

Our welcoming campus provides a real feeling of community for those living, working and studying here.

Centre creates new hub for student life on campus

One of the first changes our students saw as they returned for the 2010/11 academic year was the new Student Centre, which was constructed over the summer break. The state-of-the-art building provides additional student social space as well as new eating areas and a refitted bar and nightclub.

The project also provided an opportunity to improve and extend the walkway into the campus. Its contemporary glass-fronted exterior creates an exciting new arrival area for visitors to campus.

The Centre was born out of the aspirations and the needs of students. It has been designed to be a social area and informal learning space where students can relax and study. It also has WiFi and networking opportunities with open plan, soft seating

Our students were consulted before the project began and also during the development, and have given lots of positive feedback.

Alumnus Andy Battle, an architect with the firm Stubbs Rich based in Bath, played a major role in the design of the new Centre.

Sustainability has been an important part of the project with designers sourcing materials responsibly and using natural daylight and ventilation where possible to keep the carbon footprint of the building down.

Entrepreneur opens innovative building

In 2010 our new multi-million pound 4 West building was opened by world-famous British entrepreneur Sir James Dyson CBE.

The building has provided much needed additional research and teaching space on the campus, as well as being home to a new Graduate Centre. It achieved the BREEAM (Building Research Establishment's Environmental Assessment Method) - excellent rating - the top accolade in the building trade.

Sir James Dyson said: "The 4 West building is an impressive space with a forward thinking design. It will be an asset to Bath, and a testament to the achievements of this University - particularly in engineering and maths."

The Graduate Centre, which is part of 4 West, is specifically for postgraduate students and includes social and informal work areas with soft seating, WiFi, data connection points and electrical sockets for laptops, as well as a kitchen area and training & seminar room.

Investment in our teaching spaces

We have made a substantial investment in the quality of our general teaching rooms, with more than 60 rooms benefiting from refurbishment over the summer of 2010.

As well as now having a much more modern look and feel, each room has been fitted with state-of-the-art equipment, including tablet PCs, visualisers, and dual projection in many of the larger lecture theatres. A number of the surrounding corridors and foyers have also been refurbished.

The project has significantly improved overall teaching room seating capacity providing more than 552 additional seats (an 11 per cent increase in capacity since 2009).

....where students are supported





A university with....

We help our enterprising students to nurture their business ideas and many go on to become successful entrepreneurs.

A notable example is Aptus Suits, a bespoke tailoring company set up by Business Administration student Alex Edwards (pictured opposite with Prime Minister David Cameron) and his friend, Richard Demczack.

For the past two years we have been giving students the opportunity to demonstrate their business skills through the Student Shop Competition. Each team gets to run a business in an empty shop in Bath city centre for just one day. The retail space is provided by Bath & North East Somerset Council, and the students have a £200 start-up fund, a package of training run by the Students' Union, and expert advice from local business mentors.

Siobain Hone, Student Enterprise Coordinator, said: "Enterprise is all about creativity and risk. We offer these students an opportunity to be truly entrepreneurial and it is gratifying to see how they perform and how much they learn in the process."

Nurturing small businesses

Local start-up and innovation companies can find support at our city centre-based Innovation Centre. The Innovation Centre provides flexible, serviced office space, business training and networking opportunities. It was expanded in 2010 to provide a centre for business training, courses and CPD.

Businesses that the Innovation Centre has helped to launch include The Retention People, a company which offers research in customer retention in the leisure industry; PowerOasis which provides power solutions for operators of mobile phone base stations; and Purple Secure Systems, a systems and software engineering company which provides project and technical expertise to support MOD and government suppliers.

Stimulating technology transfer

Using a £3.4m Knowledge Transfer Account (KTA) grant from the Engineering & Physical Sciences Research Council (EPSRC), awarded in 2009, we have been disseminating our research-based knowledge to business and industry, as well as Government and charities.

The 30 projects funded to date range from promoting the use of renewable building materials to developing life saving anti-bacterial coatings.

Professor Chris Budd from the Department of Mathematical Sciences, was awarded a Knowledge Transfer Fellowship to spend time at the Met Office to oversee the transfer and embedding of adaptive numerical code into their software. It is anticipated that this code will enable the Met Office to more accurately predict storm events.



....entrepreneurial flair

Working with our community....

University life extends well beyond our Claverton campus. We work with our local communities to make a positive impact on people's lives.

Our students volunteer to help in roles ranging from mentoring schoolchildren to fundraising for local and national charities.

Our outreach activities aim to inspire and excite young people - giving a taste of university life and engaging them in new subjects and interests.

Giving time to raise money

Every year up to 500 students volunteer their spare time to take part in the activities of RAG, the student-run fundraising group.

RAG chooses four different charities to support each year and raises more than £20,000 from four major events: RAG week; a fireworks display; a hitchhike to Paris; and a fashion show.

Fourth year Mechanical Engineering student Jenny Blowers is the Chair of RAG for 2010/11. In her second year she started as a Raids Officer, which involves organising street collections in cities across the UK. Now she combines her studies with the commitments of being President.

She said: "Every member gets involved in RAG for different reasons and will give a different amount of time depending on their commitments. There are so many things that you can do to help out. I joined because I wanted to improve my event management skills and confidence to speak in public. It makes you realise that anything is possible if you put your mind to it."

Alex Brown, a fourth year Natural Sciences student, is the Vice-Chair. He got involved with RAG from his first week at university.

He said: "I wanted to join RAG because it seemed fun and it was a good way to meet lots of people and travel around the country. I got to go to lots of cities in the UK that I hadn't been to before and on one occasion managed to collect £1,200 in 14 hours in Bond Street tube station for the Meningitis Foundation.

"You learn so many skills from RAG, like time management and meeting deadlines, but also practical skills such as marshalling at the firework displays and directing traffic. Nothing beats the feeling when you hand over the money to the charity that you have raised for."

Engaging with students of the future

As well as being home to thousands of students during the academic year, we also welcome hundreds of local school children to our campus to give them a taste of university life and engage them in the types of subjects that they could study in the future.

Young people are invited during both term-time and the summer break to attend a host of exciting outreach activities including the three-day Salter's Chemistry Camp which attracts pupils from more than 70 regional schools, and the annual Bath Taps into Science Fair where activities include a slime stall, Lego robotics, and a liquid nitrogen show.

Sporting fun for local youngsters

Each week more than 1,000 local children take part in grass-roots sports activities at our Sports Training Village.

They learn skills and have fun in their chosen sport either as individuals through the successful Team Bath Tribe programme or through local clubs based at the facilities such as Team Bath Netball and Team Bath Athletics.

A further 20,000 schoolchildren have received curriculum sports coaching from Team Bath staff and local partners in the past three years through a generous scheme sponsored by local business, Roper Rhodes.

....to make a positive impact



Generous graduate makes massive £1 million donation

In 2010, one of our earliest graduates Roger Whorrod, together with his wife Sue, donated a gift worth £1 million to boost our research into green technologies. Their gift is the largest ever received by the University from a living donor.

Although Roger carried out his studies at the Bristol College of Science & Technology, he received his degree from the newly created University of Bath at a ceremony in the Assembly Rooms in 1965. After pursuing a career in engineering, he became an entrepreneur and set up several successful engineering businesses in the West Midlands.

He said: "I was heading for an apprenticeship at 15 because I'd failed my eleven-plus. So going to university was absolutely life-changing. I loved every minute of it.

"I hope our gift enhances the reputation of the University which has come a long way in a short time. I was here at the very beginning; it has really progressed and I would like to continue that association."

We are using the Roger & Sue Whorrod Fund to support our Centre for Sustainable Chemical Technologies through the endowment of a professorship - the Whorrod Chair in Sustainable Chemical Technologies - and by funding research fellowships to attract outstanding early-career academics to Bath.

Roger said: "I wanted our gift to go to research because I see it as an investment on which we will get a measurable return. The Centre may come up with world-shattering discoveries. It's an exciting place with vibrant PhD students - we love it!"

The Whorrods' latest gift is not their first. In 2005 they set up a £1,500 annual bursary scheme for engineering students. The first two Whorrod Bursary recipients graduated recently with First Class honours degrees.

Sue said: "Every year we give a dinner for the students." They work hard, they enjoy what they're doing and it's great to see how they mature over the four or five years of their course. When you're our age it's nice to be in touch with younger people; they're a first class bunch and it's been a pleasure to know them."



The Whorrods' donation benefited from the Government's Matched Funding Scheme for universities which, combined with charitable Gift Aid relief, doubled the value of their gift to the University.

Making a lasting impact

Philanthropic gifts from more than 1,800 alumni, friends, charitable trusts, companies and other organisations helped to make a lasting difference in 2009-10.

Gifts totalling £4.36 million were donated – 120 per cent more than the previous year. The value of most gifts was enhanced by 50 per cent thanks to the Government Matched Funding Scheme for English universities, which has enabled us to support more research, provide more grants to enhance the student experience, and award a record number of scholarships to new students starting in 2010.

Our Rolls of Honour recognise those donors whose cumulative giving has been exceptional, helping to fund scholarships and bursaries, prizes for academic achievement, excellence in sports and the arts, and much more.



Bath and beyond

We are a truly worldwide institution with our global community of staff, students and alumni. Here are some examples:





Captain Nick Nicholls from the Royal Engineers Corps received a Masters Degree in Electrical Power Systems through the University's distance learning programme this year. He took one of his exams in Afghanistan and completed coursework while on service.

Our Centre for Development Studies, which studies poverty and wellbeing is internationally renowned for its work in Bangladesh and has for three decades been involved in action research and policy advocacy in Bangladesh aimed at improving the lives of the country's most disadvantaged.



Greece







Hong Kong



We have a wide-ranging reciprocal sports and academic agreement with Malaysia, covering the buildup to the 2012 Olympic Games and 2014 Commonwealth Games.



Madagascar

Grants made from the Alumni Fund have helped students to attend work placements as far afield as Madagascar and Antarctica.



MBA graduate Susan Mawemuko, a Steve Huckvale Scholar in Management, was awarded MBA Student of the Year, considered the highest accolade for students of accredited MBA programmes.

