



# Contents

1. Welcome from the Vice-Chancellor
3. World-class university
5. Rankings and reputation
7. Research matters:
  7. *'Seeing' by hearing*
  9. *'Light up' burns dressing*
  10. *Strategic risk & insurance*
  11. *Informing policy with research*
  13. *Self-healing concrete*
15. Skills for life
17. International communities
19. A new era on campus
21. Innovative thinking
23. A supportive community
25. Reaching out
27. Students' Union
29. Sporting success
31. Accounts

# Welcome from the Vice-Chancellor



**The University of Bath has a proud record as one of the UK's leading research intensive universities and this past year has seen that reputation grow both here and overseas.**

Our research continues to thrive across our three faculties and the School of Management. A determination to deliver real-world impact and a spirit of interdisciplinary collaboration is recognised in an increasing number of both new and enduring relationships with research funders. 2012-13 saw our largest ever research portfolio and by January 2014 the figure stood at £119 million, an increase of 20 per cent on last year. This is particularly impressive given the increased competition for grants and contracts in a difficult economic environment where Government funding continues to be squeezed.

We have enjoyed a good success rate in bids for Centres for Doctoral Training in the past year with five out of 11 proposals to the Research Councils being successful including a five year extension for two centres based here – Chemical Technologies and Digital Entertainment. This is a strong vote of confidence in the quality of our provision and reinforces our commitment to nurturing the next generation of researchers. We also worked closely in two further successful bids with our GW4 partner universities (Bristol, Cardiff and Exeter) demonstrating the strength of this collaborative approach to achieving impact across key global challenges.

Thanks to a successful bid to HEFCE in 2013 we will be launching a new highly innovative postgraduate taught programme from autumn 2014. It will be co-developed with employers and will include a six-month work placement, drawing on the University's large and well-established existing employer network.

On the international stage, a great deal of work has taken place to grow our presence and secure research collaborations with world-leading institutions. We can foster global research talent as a result of our partnerships and drive forward an increased emphasis on mobility of both our research, and our students, between the UK and overseas.

The launch of our new Institute for Policy Research in February 2013 has helped raise the international profile of our research. The Institute's work bridges the worlds of academic research, policy and professional practice, and enables us to build on our existing strengths in addressing some of the major policy challenges we face on a local, national and global scale.

We were delighted to come out on top in the 2013 survey of student satisfaction (the National Student Survey), and to have been awarded the 'Best Campus University' in Britain by *The Times* and *The Sunday Times*. Both are wonderful endorsements of the huge collective and individual contribution made by so many people within the close-knit community we have here at Bath. This is supported by a strong student voice where our students are engaged in all our strategic decision-making. The Students' Union being ranked fourth in the UK is a reflection of the strong culture of collaboration between the University and its students. Our reputation and standing in national university league tables has never been higher. Being ranked in the top 10 of all tables reaffirms the quality and distinctiveness of the outstanding student experience we can offer.

The news about what we have to offer is certainly getting out as competition for a place at Bath remains as fierce as ever. Bath's student intake in 2012-13 was at a record high and bucked the national trend which saw a significant drop in the number of students entering higher education including many of those in the Russell Group. Applications from an increasingly high calibre of students continue to be buoyant and we expect to achieve almost a 20 per cent increase in undergraduate applications for the 2013-14 entry.

But we must not rest on our laurels and development of the campus continues apace. We are investing over £150 million to enhance both our research facilities and the student experience we offer. The Chancellors' Building, providing students with state-of-the-art teaching facilities, opened in November and our new student accommodation and Centre for the Arts will open their doors for the first time in 2014.

Our aim at Bath is to produce graduates who are classic all-rounders - of the highest intellectual calibre and accomplished in other spheres such as competitive sports and the arts. These new developments will only further enhance the experience we can offer our student community.

In the sporting arena we followed up our major role in the success of London 2012 by hosting the Special Olympics here in Bath. The University provided accommodation for 1,700 athletes from around the country during the Games last August and played host to nine of the 12 sports that took part. Organisers hailed the event as the 'smiliest Games ever' and praised the University and the people of Bath for their warm welcome and wonderful facilities.

2013 saw the installation of HRH The Earl of Wessex as the University's fifth Chancellor – a significant milestone in our history. Prince Edward will be an excellent ambassador for the University. His influence and reputation will be pivotal in supporting us to achieve our future strategic goals. His appointment reaffirms the University's global reputation and is a notable acknowledgment of all of the achievements of our staff and students in the 47 years since the University was given its Royal Charter in 1966.

Our new Chancellor joins us as we look forward with anticipation and excitement to our 50th anniversary in 2016. This will offer a chance to bring our growing global community together to celebrate not only our first 50 years but to look forward to what the next 50 might bring.



Professor Dame Glynis Breakwell DBE DL  
Vice-Chancellor



## World-class university

**The University of Bath is a close-knit community which is rightly proud of its achievements both collectively and individually. Any community is only as strong as the values it shares.**

**We are committed to excellence in research, with a focus on real-world impact and a true spirit of interdisciplinary collaboration. We set unashamedly high standards of intellectual achievement and commitment across our many fields of activity with the aim of producing graduates who are classic all-rounders – ready to excel in their chosen field and well equipped to meet the evolving needs of employers.**

### A proud past

The University received its Royal Charter in 1966, but in truth, we can trace our history back over 150 years. The Great Exhibition of 1851 inspired the establishment of the Bristol Trade School in 1856 which later that century became the Merchant Venturers' Technical College.

The College worked in close collaboration with the University of Bristol, providing its Faculty of Engineering until the late 1940s. By 1960 that formal link was severed and the College, known then as the Bristol College of Science & Technology, became one of ten administered by Government.

The expanding College had been seeking sites in Bristol without success when a chance conversation between the Principal and the Director of Education in Bath led to the offer of our Claverton Down site. Construction began in 1964 and we opened our doors to our first students in 1966.



### An ambitious future

The development of our Claverton campus has continued from those early beginnings to such a point that we were recently recognised as the 'Best Campus University in the UK' and top in the country for student satisfaction. We are one of the 50 highest ranked universities under 50-years-old in the world and in the top 100 'most international universities in the world'. A culture of innovative thinking within our academic community attracts leaders in their field and the researchers of the future. Together they are addressing many of the societal questions of the moment.

Our superb facilities are geared towards delivering research with impact and an outstanding all-round student experience which is enjoyed by a truly international community. More than a quarter of our students come from outside the UK and represent over 100 nationalities. A rapid transformation of the eastern side of campus is currently underway with over £150 million of investment in new teaching and student accommodation as well as a new Centre for the Arts. Plans for further new facilities for research and teaching are well advanced.

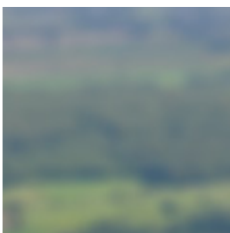
Our graduates now form a growing worldwide network of over 95,000 alumni in 158 countries. Proud to be part of a World Heritage city, we are looking forward to celebrating our 50th anniversary in 2016 and the next phase of our development with great optimism. We have made outstanding progress in our first five decades and are ambitious for more success in what will be an exciting and challenging future.

# Chancellor's Installation

On Thursday 7 November 2013, HRH The Prince Edward, The Earl of Wessex, was installed as our fifth Chancellor.

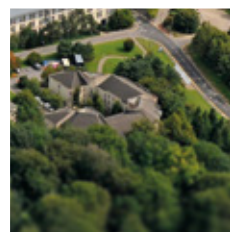
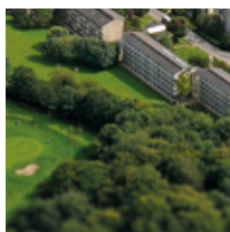
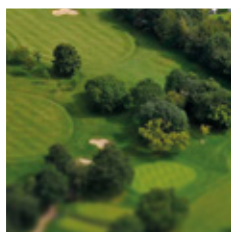
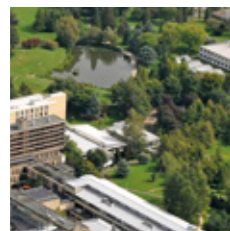
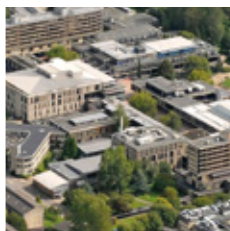
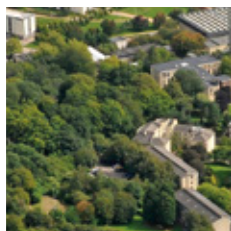
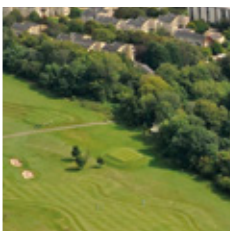
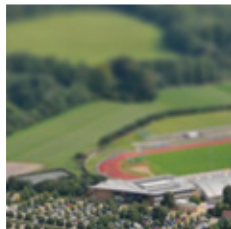
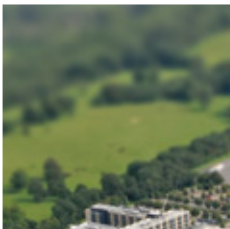
The installation ceremony, held in a packed Bath Abbey, was followed by a programme of activities on campus and was an opportunity for the whole university community to celebrate the occasion.

Our new Chancellor and his wife, the Countess of Wessex, spent the afternoon touring an 'Open House' exhibition in the Sports Training Village, showcasing some of our latest and most innovative research as well as student clubs and societies, before concluding proceedings with the formal opening of the new Chancellors' Building.



**“As Chancellor, His Royal Highness can make a major contribution to the life of the University. He will be an excellent advocate for us both nationally and internationally.”**

**Professor Dame Glynis Breakwell DBE DL  
Vice-Chancellor**



For more information please visit:  
[www.bath.ac.uk/about](http://www.bath.ac.uk/about)



# Rankings and reputation

**It has been a remarkable year for the University during which time our reputation was strengthened with two significant accolades that place Bath number one in the country for student satisfaction and the UK's 'Best Campus University'.**

According to the 2013 National Student Survey (NSS), our students are the most satisfied in the country with an overall satisfaction rate of 94 per cent - nine points above the UK national average of 85 per cent. Bath tops the national table of over 130 universities, excluding small and specialist higher education institutions.

The latest NSS awarded us top rankings in three subject areas: Business Studies (98 per cent satisfaction), Mechanical Engineering (97 per cent) and Aerospace Engineering (96 per cent). We were also ranked number one for Pharmacy & Pharmacology (99 per cent) in Great Britain.

The supportive community offered by our campus was recognised by *The Sunday Times & Times Good University Guide 2014* when it bestowed on us the title of 'Best Campus University.'

The publication of the *Economist's Which MBA?* in 2013 saw our School of Management ranked 20th in the world – a rise of five places on our 2012 position.

We were also named second in the UK for our full-time MBA programme for the third consecutive year.

We came first in the UK in six categories: personal development and educational experience; faculty quality; increase in salary; post-MBA salary; gender diversity; and percentage of graduates in jobs three months after graduation (joint first with the London Business School).

The guide was fulsome in its praise for the University, highlighting in particular our excellent student satisfaction rates, the community feel of campus life, placement opportunities for students and graduate prospects, as well as our very low student drop-out rates.

Our global standing was also bolstered this year. In the QS list of top 50 universities under 50-years-old, we were ranked 12th in the world. In the *Times Higher Education's* '100 under 50' 2013 table we were 34th, having risen three places on our position in the previous year.

**"To be rising in such a list against such tough global competition is a great achievement."**

**Phil Baty,**  
*Times Higher Education Rankings Editor*

**"This is fantastic news and reflects the students' view of the unique combination of high quality teaching, excellent support services and the close-knit campus community we offer them."**

**Professor Dame Glynis Breakwell DBE DL**  
*Vice-Chancellor*



For more information please visit:  
[www.bath.ac.uk/about/rankings](http://www.bath.ac.uk/about/rankings)





Guide	Year	Ranking	Number scored	Location
The Times and The Sunday Times Good University Guide	2014	7	121	National
The Guardian University Guide	2014	7	120	National
Complete University Guide	2014	9	116	National
QS Top 50 under 50	2012	12	50	International
Times Higher Education '100 under 50'	2013	34	100	International
QS World University Rankings	2013	187	800	International
Leiden Ranking	2013	190	500	International
Times Higher Education World University Rankings	2014	276-300	400	International



## Research matters

**Researchers at Bath are dedicated to making a difference to the world we live in. Innovative thinking is core to our academic community, an ethos that attracts world leaders in their field and nurtures the researchers of the future.**

We are committed to supporting our researchers through investment in superb facilities and professional support, and by engaging closely with industry, the public and policy makers to identify, explore and develop the innovative and challenging projects in which they are involved. Our researchers are advancing knowledge across all of our areas of expertise.

## ‘Seeing’ by hearing

**Latest research from academics in our Department of Psychology could soon help blind or partially sighted people to ‘see’ the world through sounds.**

The team, led by Dr Michael Proulx, is using the vOICe sensory substitution device, invented by Dutch engineer Dr Peter Meijer, which turns visual images taken from a camera into sounds that can be used as navigational reference points.

The vOICe training software breaks up two-dimensional photographs of objects to create a scale of tonal notes related to an object’s height and width. Processed by the brain, these sound signals can then be used to build an image in a user’s mind.

As part of the research, blindfolded and sighted participants were observed to see how they responded to the device. After extensive training, the researchers’ psychological study showed that this type of intervention could in fact be more successful than certain invasive techniques. Object recognition levels

were higher for participants using the vOICe than for patients with stem cells implants.

Around 40 million people worldwide are blind and another 250 million have some form of visual impairment. As such this work has exciting applications as an alternative to invasive surgery, including retinal surgery and stem cell implants.

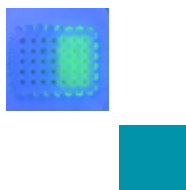
Dr Proulx is now collaborating with computer scientists at Queen Mary University of London and Goldsmiths, University of London, along with Dr Meijer, through the EPSRC-funded project to understand more about how blind people use their senses to perceive vision. This will feed into work developing new computer software that could help blind people go about their lives.

With the numbers of cases of visual impairments expected to rise with the rapidly ageing population in the years to come, this work has the potential to open up a world of new opportunities for blind and partially sighted people.

Dr Michael Proulx with a volunteer  
using the vOICe device



Watch a video about  
Dr Proulx's innovative research  
[go.bath.ac.uk/p8](http://go.bath.ac.uk/p8)



## ‘Light up’ burns dressing

**Our chemists have developed a prototype medical dressing which could potentially save the lives of children with serious burns by detecting the first signs of infection.**

Toxic Shock Syndrome (TSS) is a serious complication of burn infections and particularly dangerous in children under four because of their immature immune systems. If left untreated, a child with a relatively small burn who develops TSS can deteriorate rapidly within a few hours and 50 per cent of children with the full-blown disease can die if they do not get the right treatment. There is an immediate clinical need for fast detection of burn wound infection in children in order to ensure appropriate and rapid treatment, and to reduce the unnecessary prescription of antibiotics.

Scientists at the University have been working with clinicians at the South West Paediatric Burns Centre at Frenchay Hospital in Bristol to create an advanced wound dressing that can detect key microbial pathogens including the bacteria which cause TSS.

The prototype dressing releases dye from nanocapsules triggered by the presence of disease-causing pathogenic bacteria. The dye fluoresces under ultraviolet (UV) light, alerting healthcare professionals that the wound is infected. The nanocapsules mimic skin cells in that they only break open when toxic bacteria are present. They do not respond to the harmless bacteria that normally live on healthy skin.

Around 5,000 children a year in England and Wales end up in hospital with serious burns, mostly through scalding caused by tea and coffee. In the last year, the

Children’s Burn Centre at Frenchay has treated more than 800 children for serious injuries. With current methods of detection taking between 24 and 48 hours to establish whether a wound is infected, the burns dressing can alert clinicians quickly to a potential infection and will mean treatment starts sooner.

A clinical research team has now been assembled at Frenchay Hospital to collaborate with our staff to help produce dressing prototypes and conduct randomised, controlled clinical trials in hospitals. There is also close collaboration with industry partners, including Mölnlycke Healthcare, who develop appropriate dressings. The researchers expect to start safety trials on healthy human volunteers within four years.

This exciting research into responsive, antimicrobial dressings could revolutionise the diagnosis and treatment of scalds in thousands of children in the UK annually and, ultimately, millions worldwide.

This project was recently shortlisted for *The Guardian’s* prestigious Higher Education Research Award.



Dr Toby Jenkins from our Department of Chemistry who is leading the research to develop smart wound dressings



Find out more about our innovative wound dressing  
[go.bath.ac.uk/p9](http://go.bath.ac.uk/p9)



Professor Michael Adams, Director of our School of Management's Centre for Strategic Risk & Insurance, and Dr Elena Veprauskaite, Grant Thornton Research Fellow

## Strategic risk & insurance

How organisations, whether private or publicly owned, identify and handle risk is becoming ever more important, particularly as they move into emerging and unexplored markets. To research this issue and build learning around the theme, our School of Management created the new Centre for Strategic Risk & Insurance (CSRI).

The CSRI is a leading international centre of excellence for the conduct, promotion, and dissemination of relevant and high impact research on the management of risk faced by individuals, companies, and the public sector. The CSRI is promoting 'risk scholarship' as an interdisciplinary area of research of both national and global significance.

This year the CSRI has focused on important commercial and public policy areas of risk management research, such as the structure and operation of insurance markets and their links with

other financial systems, including the banking sector. It has also looked at the analysis of individual risk perceptions and human behaviour across cultures.

A number of our PhD students who are part of the CSRI are being sponsored by blue chip companies, helping industry to examine key, real-world challenges. Projects our high-achieving students are involved in include: the links between risk and financial management and the accounting and tax implications in the insurance market; the determinants of the profitability of micro-life insurers in Nigeria and South Africa; and the board composition and profit efficiency in Russia's property-liability insurance industry. The results of their work are expected to have important implications for public policy.

Access more information about the CSRI  
[go.bath.ac.uk/p10](http://go.bath.ac.uk/p10)



# Informing policy with research

This year saw the launch of our Institute for Policy Research (IPR). The IPR brings together many of the University's research strengths to foster interdisciplinary research of international excellence and impact. It bridges the worlds of research, policy and professional practice enabling us to address some of the major policy challenges we face on a local, national and global scale.

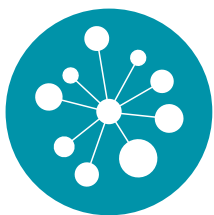
Our research focuses on seven policy themes: Childhood and youth; Conflict and security; Environment and sustainability; Global political economy; Governance and policy design; Health and wellbeing; and Poverty, work and justice. We are also developing connections with our Science and Engineering departments to further our policy research strengths in these areas.

## IPR highlights include:

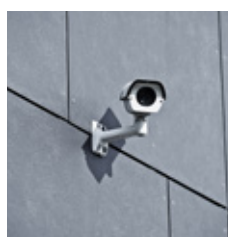
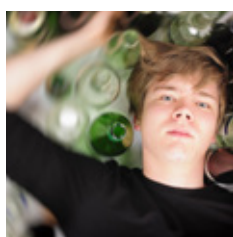
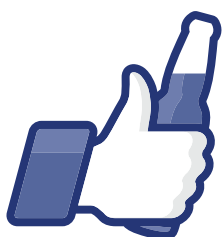
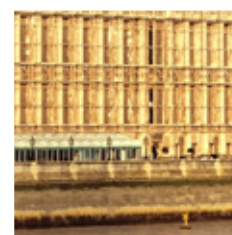
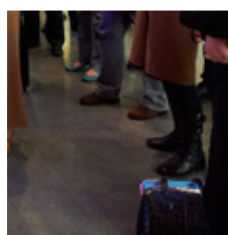
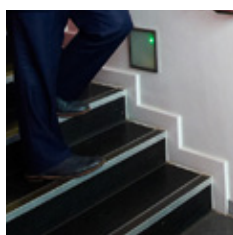
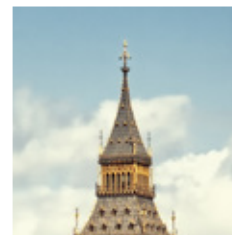
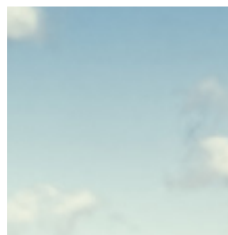
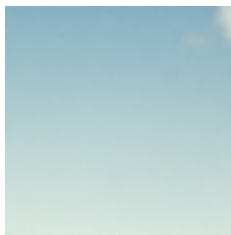
- Work published by **Professor Anna Gilmore** (Tobacco Control Research Group) uncovered how the tobacco industry is keeping the price of its cheapest cigarettes virtually static despite annual increases in tobacco taxes, thereby circumventing the UK's public health policy to reduce smoking through higher prices.
- Research published by **Dr Susan Harkness** (Department of Social & Policy Sciences) looked at the issue of lone mothers, work and depression. This found that depression among lone mothers in work fell from 32 per cent to 23 per cent between the mid-1990s and the mid-2000s, but increased from 33 per cent to 41 per cent among those not in work. This change is related to policies introduced in the same time period that made it easier for lone mothers to get a more satisfactory balance between work and childcare. The research found that balancing work and childcare was a crucial factor and proved more important than level of earnings, type of job or career prospects. This suggests that future welfare reforms and policy incentives which merely increase the pressure on lone parents to move into any work, or to work longer hours, may risk pushing up the rate of maternal depression.
- **Dr Valeska Ting** (Prize Fellow in the Department of Chemical Engineering), won a place on the prestigious Royal Society Civil Service Pairing Scheme. The scheme builds bridges between policymakers and the UK's best research scientists through exchange visits. Paired with Paul Freeman, Senior Scientist at the Department for Energy & Climate Change, Valeska gained insight into the policy-making process and shared her knowledge with government.



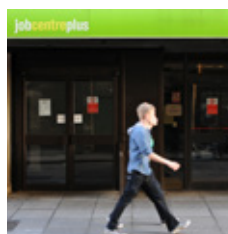
Learn more about the work of the IPR  
[go.bath.ac.uk/p11](http://go.bath.ac.uk/p11)



Economist and journalist Will Hutton who spoke at the IPR launch event



- Professor Christine Griffin (Department of Psychology) presented to the All-Party Parliamentary Group on Alcohol Misuse, calling for more effective regulation of alcohol marketing aimed at young people. The study found that online alcohol marketing aimed at young adults is widespread, highly dynamic and takes an ever-expanding range of forms as new digital and mobile technologies develop. Young people tend to view targeted alcohol marketing through social media as useful and informative, seldom recognising it as advertising. However, online alcohol marketing is pervasive across a range of social media platforms, and encourages a culture of intoxication or ‘extreme drinking’ among young adults.
- Work by Professor Paul Gregg (Director of the Centre for Analysis of Social Policy) contributed to the Social Mobility and Child Poverty Commission annual report. Paul is one of the ten Commissioners that make up the Social Mobility and Child Poverty Commission, set up by Prime Minister David Cameron and chaired by the Rt Hon Alan Milburn.
- The launch of the IPR’s first international network: Middle East and North Africa (MENA) Social Policy Network, led by Dr Rana Jawad (Department of Social & Policy Sciences).





# Self-healing concrete

**Our researchers are playing a key role in finding ways for concrete buildings to heal themselves when cracks appear. With concrete all around us, this research could have a significant impact on the longevity and maintenance costs of bridges, commercial structures, work places and homes in the future.**

The £2 million EPSRC project, which has been matched by an additional industrial contribution of just over £1 million and is in collaboration with the Universities of Cambridge and Cardiff, aims to develop novel, self-healing concrete with its own inbuilt immune system that will close wounds and prevent deterioration.

The team at Bath, drawn from our Departments of Biology & Biochemistry and Architecture & Civil Engineering, is developing a concrete mix that contains long-lived bacterial spores. The spores only germinate when water enters a crack, then the resulting bacteria will work to produce limestone (calcite) to plug micro-cracks before water and oxygen has a chance to corrode steel reinforcement.

They are investigating which bacteria can survive and produce calcite in the highly alkaline environment created by cement. Dr Richard Cooper from the Department of Biology & Biochemistry explained: "We are also working to find a way to protect and separate the bacteria, nutrients and calcite precursor in micro-capsules, so that they can survive the crushing effects of concrete as it hardens and becomes denser; the contents are then released when cracks form."

Using bacteria in this way also offers another life-extending benefit to a structure, by helping to stop steel corrosion. Not only will the bacteria work to plug cracks in the concrete, the process of doing so uses oxygen, which would otherwise be involved in the corrosion process of the steel bars.

Dr Kevin Paine, from the Department of Architecture & Civil Engineering, added: "Using a concrete that can mend itself could vastly improve the life of structures and cut down on repairs, which could reduce the lifetime cost of a building by up to 50 per cent."

With more than seven per cent of the world's CO<sub>2</sub> emissions currently caused by cement production, reducing the amount needed for new structures or to repair existing ones will also have a significant environmental impact.

Whilst building trials are not scheduled to start before 2015, by improving safety, enhancing durability and dramatically reducing maintenance costs, these developments have the potential to be game-changing for the construction industry.



Watch CNBC's coverage of our self-healing concrete story  
[go.bath.ac.uk/p13](http://go.bath.ac.uk/p13)





Researchers inspect steel corrosion in reinforced concrete





# Skills for life

A degree from our university is much more than just an academic qualification. Throughout the course of their studies, our students can expect outstanding opportunities that enhance their learning, helping to hone their professional and communication skills and ensuring their success in a competitive, global market.

The professional placement opportunities and industry links available help our students to experience real world challenges, putting their learning into practice whilst at the same time building important connections with future employers. This rounded experience is all backed up by the excellent support services we provide.

## Careers & employability

The majority of our undergraduate students take courses that include a professional placement year or periods of study abroad. This contributes significantly to our outstanding graduate employment figures.

**85 per cent of Bath's employed UK full-time first degree graduates are in the top three occupational groups, compared with 64 per cent of employed graduates nationally (DLHE 2011/12).**

This year we developed our professional placement opportunities further by providing greater support to students in the lead up to, and during their time with business and industry partners. We also enhanced our employer feedback mechanisms for students while on placement to ensure both employer and student get the most out of the opportunity.

Through the work of the Careers & Employability Committee and the Placement Tutors' Forum we have developed a more coherent approach to this key aspect of the student experience. Working together, our placement teams, careers service, alumni networks and industry partners are now able to offer more opportunities to our students than ever before.

We have also extended industry-team projects for final year students allowing them the opportunity to use their research skills to tackle a 'real world problem' working alongside local employers. For example, our Physics students are working in teams of four, with an academic supervisor, collaborating with local employers on harnessing the potential of waste water from Bath's thermal springs.



**"The students' findings will be significant in the eventual repair of the Abbey's collapsing floor and the design of the new heating system which will use the energy from Bath's famous hot springs."**

**Charles Curnock, Bath Abbey**

## Communication skills

Final year students in the Departments of Physics and Mathematical Sciences had the opportunity this year to develop science communication skills within their degree course.

Working with staff in our Public Engagement Unit and colleagues from their academic department, the students were supported to design, carry out and evaluate a range of science communication activities. This is invaluable for enhancing key skills such as communication, creativity, teamwork, independent lifelong learning and project management.

With the Academic Skills Centre we also further developed a range of lectures and seminars to improve the communication skills of all first year undergraduate students. Focused on academic writing and critical reading, the programme is enhancing our students' skills as well as their future employment prospects.

## Student support

Co-ordinated by our Students' Union, we offer Peer Assisted Learning (PAL) to all students to provide additional learning support and a chance to revise together. PAL is enabling our students to discuss topics with colleagues and develop new approaches to study and revision.

We also use peer mentoring to match first year students with those in higher years to assist with their transition to university, as well as providing support in accommodation through our Hall Representative System, first introduced in 2012, where students are elected to run events and activities.

**In 2013-14 more than 650 student volunteers will be supporting over 3,000 students either through PAL or via peer mentoring.**

By using Panopto, our lecture capture platform, we offer students the opportunity to revisit lectures online. Panopto has already proved to be an invaluable resource, particularly during the exam period. We continue to innovate the way we deliver course materials, including via 'the flipped classroom', whereby students access learning materials in advance of lectures and seminars helping them to get the most out of the actual lecture time.

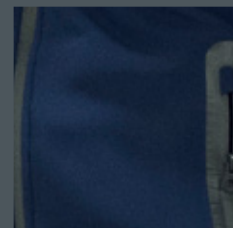
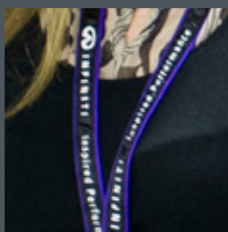
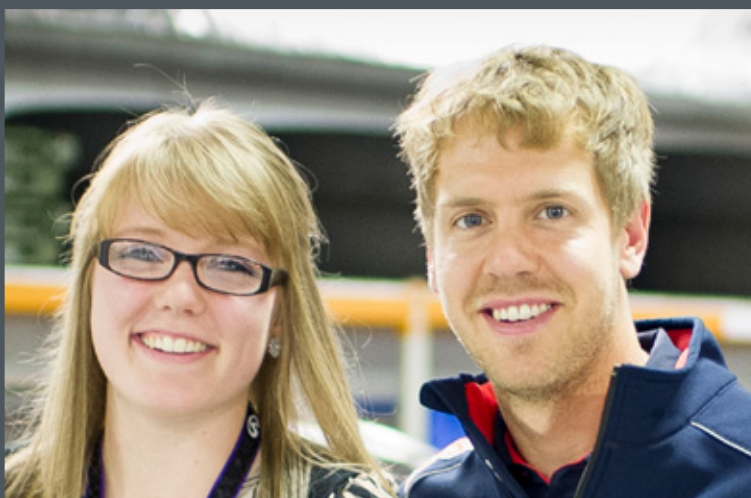
## Pole position

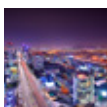
This year Gemma Hatton, undergraduate student from our Department of Mechanical Engineering, became the first placement student ever to win a Nissan Gold Award for outstanding work.

Tasked with organising a major event for the company, which involved Formula 1 Champion Sebastian Vettel, the Nissan board of directors was so impressed by Gemma's efforts that they took an unprecedented step in awarding her the coveted award, usually reserved only for staff for extremely high levels of attainment.

Life-long motorsport fan Gemma was undertaking a year in industry as part of her degree programme.

Read more about Gemma's work with Nissan  
[go.bath.ac.uk/p16](http://go.bath.ac.uk/p16)





# International communities

**By strengthening strategic partnerships around the world, we are raising our international profile, increasing the visibility of our research and teaching, strengthening our alumni networks, and helping to influence policy on global issues.**

This year we made strategic investments to support our research collaborations worldwide. Through a number of internal funding schemes we are promoting internationalisation to the mutual benefit of our researchers and student community, as well as partner institutions.

These include the Global Chair Scheme, which is helping to bring academics of global renown to the University; the Global Research Scholarship scheme, designed for Bath and partner institution students to spend up to six months in other universities; and the Researcher Mobility and Research Collaboration Schemes, providing funding for any researcher at Bath to engage in research collaboration with strategic partners worldwide.

Through engagement with overseas funding councils, including DIKTI in Indonesia, FAPESP in São Paulo, Brazil, and Colciencias in Colombia, we are creating opportunities for PhD students from partner countries to come to Bath to continue their studies, transferring knowledge between institutions and enabling Bath researchers to collaborate more freely with their counterparts around the world.

We have forged partnerships with Tsinghua University and Zhejiang University in China, the University of São Paulo in Brazil, the National University of Singapore and Nanyang Technological University in Singapore, Yonsei University in South Korea, Stellenbosch University in South Africa, the University of Malaya in Malaysia and the Tecnológico de Monterrey and UNAM in Mexico. In the United States, we are deepening our partnership with Ohio State University and Emory State University. In Europe, we have particularly strong connections with the Technical University of Munich (TUM).

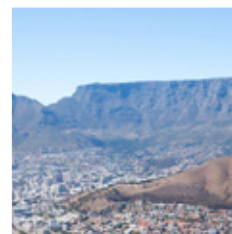
We are involved in over 60 collaborative research projects across every discipline. This year the first joint research paper was published between our Centre for Sustainable Chemical Technologies and the Global E3 Institute at Yonsei University, South Korea. Lead author, Su-Hyun Yoo, is a visiting postgraduate scholar in our Department of Chemistry. A postgraduate from Yonsei University, he is one of the first recipients of our Global Partner Research Scholarship.

In the 2012-13 academic year, our exchange numbers increased and our students took advantage of new funding opportunities to travel to partner institutions.

We also saw the successful renegotiation of our ERASMUS Charter, enabling more students to benefit from study in leading EU universities.

**“We are a networked university, in partnerships for the long term benefit of all the University and our international partners.”**

**Professor Colin Grant,  
Pro-Vice-Chancellor for Internationalisation**



Our University is forging new links with institutions around the world including Stellenbosch University, South Africa



We have established a new partnership with the leading university in Latin America after signing a Memorandum of Understanding with the University of São Paulo, Brazil

Significantly, we also became the first UK university to be admitted to the Magalhães Network of leading universities from Latin America, the Caribbean and the EU, enabling new opportunities for our engineering and architecture students to benefit from partnership working.

Our alumni are an integral part of our expanding programme of overseas activities, acting as global ambassadors and helping to ensure that our international networks thrive. In 2013, a programme of over 40 international events meant that a little of Bath was shared with our graduates once more.

In September, our Vice-Chancellor hosted an alumni reception in Singapore, welcoming alumni in the country and representatives from our newest university partnerships, Stellenbosch and Ohio State Universities to hear about Bath's initiatives in the region.

At another alumni event held in Kuala Lumpur in October, university representatives were able to catch up personally with almost 100 Malaysian graduates.

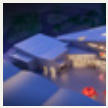
This year, in addition to networks in South East Asia, we launched new alumni communities in Mexico and San Francisco where it is clear that support and interest in our work and activities remains strong.

We continue to engage with global businesses in different parts of the world, in particular in the US, Singapore and Malaysia.



Some of our alumni in Shanghai at a recent careers and networking event

25 per cent of our student body is international and our students come from over 120 countries.



## A new era on campus

**Our multi-million pound investment programme on the Claverton campus has started to bear fruit this year with new buildings opening their doors to staff and students. From our new Chancellors' Building to the first phase of the 1 West Building, our students began the new academic year enjoying state-of-the-art lecture theatres and teaching space.**

We were delighted to welcome HRH The Earl of Wessex to officially open the new Chancellors' Building in November 2013. This £26 million teaching block offers our students a dramatic new hub of learning and teaching. Designed by 'Architect of the Year' in *The Sunday Times*, Stride Treglown, it offers bright, modern teaching spaces, a number of 30-seat lecture rooms and two lecture theatres that can seat up to 350 people. It now provides a quarter of all our teaching space on campus.



Cutting the first turf for our new Centre for the Arts



Learn more about our campus investment plans  
[go.bath.ac.uk/p19](http://go.bath.ac.uk/p19)

The first turf was cut in autumn 2013 on our new £10.9 million Centre for the Arts. This exciting new arts venue, due to open in late 2014, will offer dance studios, a theatre, performance spaces, orchestra-sized rehearsal studios, a café and the only dedicated contemporary art gallery in Bath. It will also provide executive training and development facilities for the School of Management in a dedicated education suite, benefitting both our students and the wider community.

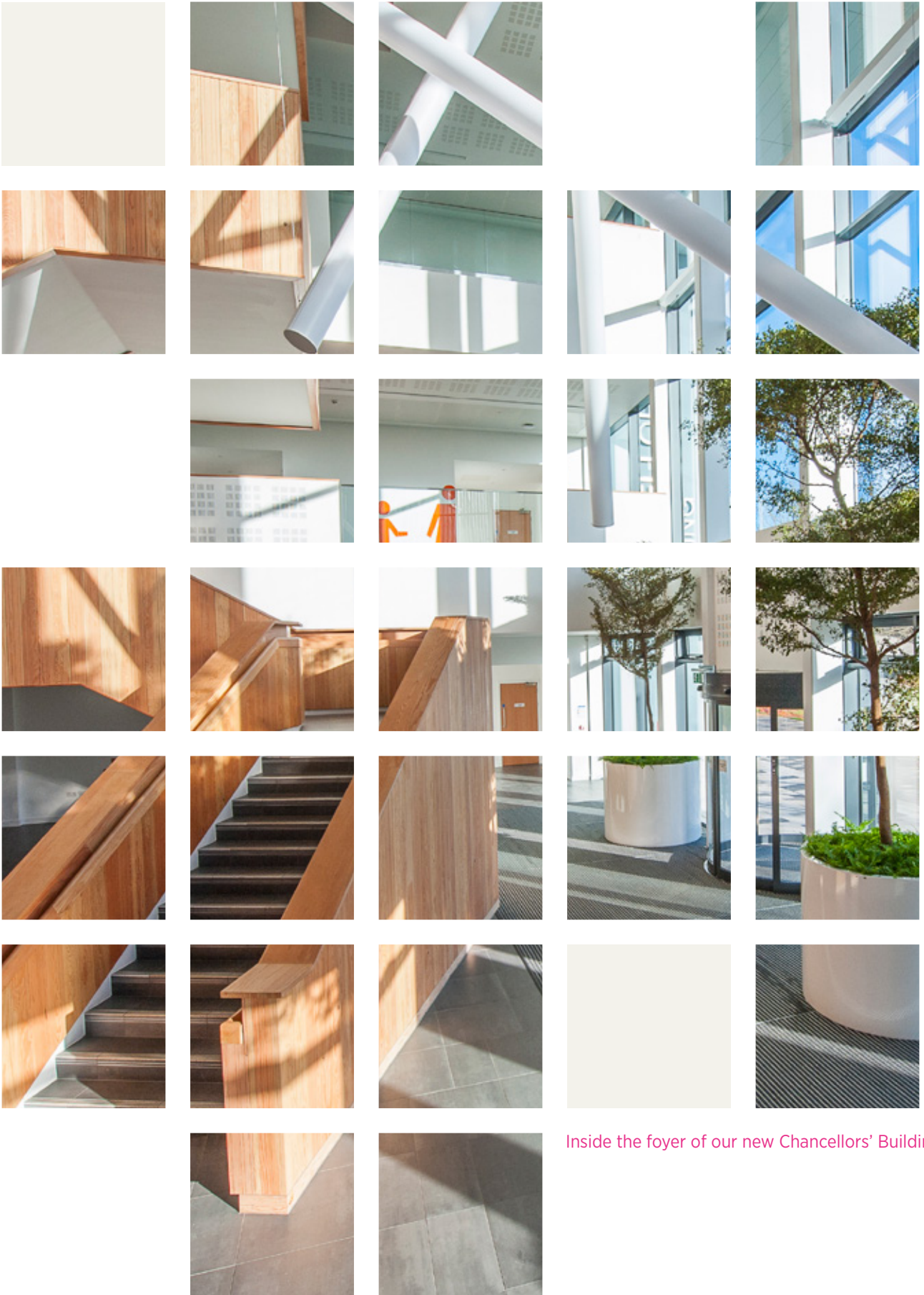
Work has continued throughout the year on the £43 million new student accommodation complex due to open in summer 2014. The additional 708 en-suite bedrooms and new eatery seating up to 350 people will not only provide students with a modern and welcoming environment, but will offer additional campus conference facilities.

We are also planning another £48 million worth of campus investment, with two new academic buildings planned. These will create additional space for research and teaching for the Faculty of Engineering & Design and Department of Psychology, as well as room for future growth for Social Sciences, accommodation for postgraduate students and new research institutes.

The aim is for both buildings to be ready for use in 2015, subject to planning approval.

**“These buildings will help meet demand in an unprecedented period of growth that has seen our full-time undergraduate numbers increase by 55 per cent since 2001, and our research portfolio reach a record high of £119 million.”**

**Professor Dame Glynis Breakwell DBE DL**  
Vice-Chancellor



Inside the foyer of our new Chancellors' Building



# Innovative thinking

Alongside an excellent degree we want our students to stand out in other ways so we are passionate about helping them to discover their entrepreneurial spirit. Through the work of our Innovation Centre and a variety of initiatives on campus, we are fostering enterprise and capitalising on our research success.

Our Innovation Centre is part of Europe's number one start-up business incubator – the SETsquared Partnership. SETsquared, a collaboration between the Universities of Bath, Bristol, Exeter, Southampton and Surrey, has helped 1,000 high-tech start-ups raise £1 billion since its inception ten years ago.

In 2013 the Bath Innovation Centre helped its member ventures raise over £7 million in investment. We also saw the sale of one of our alumni businesses, Ubiquisys, to US giant Cisco for \$310 million.

Other successful firms to have 'graduated' from the Bath Innovation Centre this year include 3Vision and Searchstar, both of which have set up businesses in the City of Bath employing some 50 people, and Earsoft, a software start-up founded by Steven Baldwin, our Masters graduate and business plan competition finalist.

This year saw Enterprise Bath (our Enterprise Department based in the Students' Union) work in association with UnLtd, the Foundation for Social Entrepreneurs, and the Higher Education Funding Council for England (HEFCE), to put on the UniPopShop event at London's Spitalfield's Market.

Sponsored by Ernst & Young, this pop-up shop competition brought together student entrepreneurs



Developing business plans in our Innovation Centre

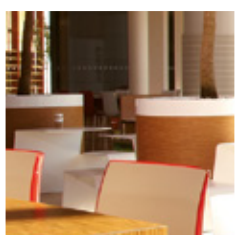
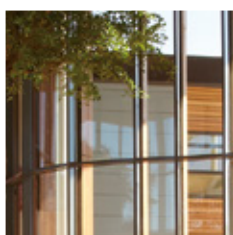
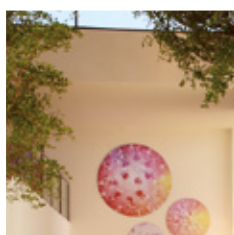
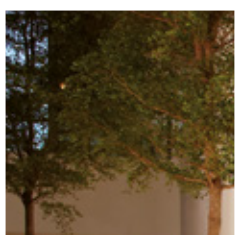
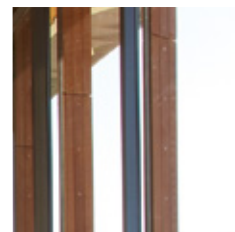
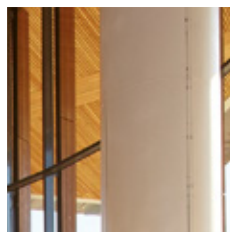
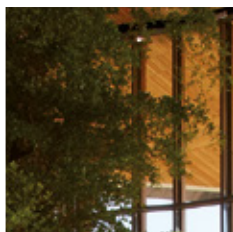
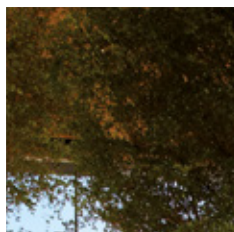
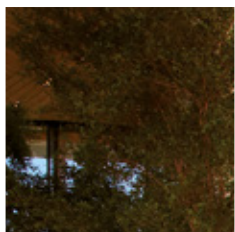
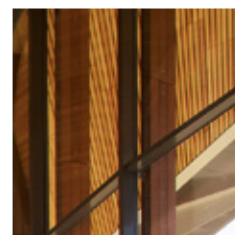
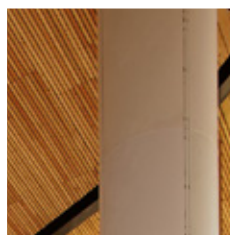
from 15 universities to test out their social enterprise ideas. *The Apprentice*-style event is an excellent example of the support on offer to our students. Its success led to organiser and Enterprise Education Manager, Siob áin Hone, being named 'Enterprise Champion' at the 2013 National Enterprise Educator Awards.

With Enterprise Bath winning £25,000 worth of funding from UnLtd and HEFCE, our students were also involved in a 'Try It, Do It and Build It' scheme - a three-tiered funding approach to help get social enterprises off the ground. The new fund was launched at a three-day workshop held in conjunction with ELON University in North Carolina which brought together staff, students and other social enterprise stakeholders to share their skills and experiences with social entrepreneurs from around the world.



Find out more about the work of our Innovation Centre  
[go.bath.ac.uk/p21](http://go.bath.ac.uk/p21)

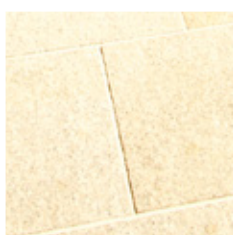
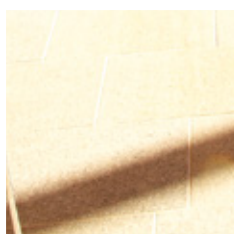
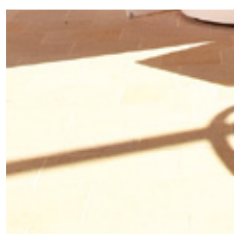


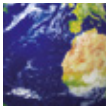


# Bristol and Bath Science Park

This year we extended our culture of innovative thinking through plans announced to develop an Innovation Campus in partnership with Bath & North East Somerset Council and through our established partnership in the Bristol and Bath Science Park.

This world-class science park, site for the West of England's large scale science and technology businesses, provides space, flexibility and support for businesses to accelerate their growth and success.





# A supportive community

As each graduation ceremony passes, our alumni community grows. Over 95,000 alumni now live and work in 158 countries and being a member of this global network is one of the biggest benefits of a Bath degree.

Our alumni continue to offer help and support long after graduation. They meet in cities across the globe to share knowledge and expertise, and many return to campus each year to reminisce about their time at Bath, see how campus is changing and share in the University's success.

An indication of the strength of this community is that our alumni and friends are giving more generously to the University than ever before. In the last year we received donations of more than £3.5 million to support our world-leading research, scholarships, and projects that enrich the student experience.

Gifts towards study, enterprise, sport or the arts enhance our thriving campus community and prepare our students to play a meaningful role on the global stage. This year our vision for an outstanding creative space to match our sporting facilities began to take shape, thanks in no small part to donations from alumni and friends. The new Centre for the Arts, now

under construction, will be a place where students and the wider community can develop not only their talent, but also their confidence.

Many of our graduates say that their time here at Bath changed their life. However the prospect of even getting to the University of Bath is financially daunting for many would-be students. We are therefore proud that a record number of our students now hold a donor-funded scholarship, which eases their financial burden and allows them the space to focus on their studies.

This year we are pleased to welcome Lloyds and BP into our community of donors for the first time. The University's inclusion in these companies' new scholarship programmes is testament to the standing of our scholars and the graduates they become.

Supporting our students is an investment in the future, and we would like to thank all those who have made this investment. Our students have an excellent track record of success and go on to become great ambassadors for the University, knowing that the Bath community of alumni and friends is behind them all the way.

## Investing in the future

**437 students now hold a donor-funded scholarship – more than ever before.**



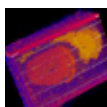
Watch our short film showing how gifts towards students and research change lives [go.bath.ac.uk/p23](https://go.bath.ac.uk/p23)

## A global network

**Last year, on average, a Bath alumni event was held around the world almost every week.**



Students receiving certificates at our Scholarship Ceremony



## Reaching out

Through widening participation and public engagement we are sharing our learning with the wider community, encouraging and supporting students from all backgrounds, and helping to showcase the significance of our research.

### Experiencing university life

Our outreach activities give individuals, young and old, a taste of university life. We offer a range of 'taster' sessions throughout the year to give young people a glimpse of life on campus, plus the chance to find out more about new subjects and see what careers their studies can lead on to. We want to encourage the learning bug early and get schoolchildren to aspire to progress into higher education – either at our university or elsewhere.

In 2013 we launched our first 'Summer School for Sums' when 30 students from local colleges taking BTEC courses in engineering, computing and sports stayed on campus to develop their advanced maths skills. Currently there is a significant curriculum mismatch between maths at Level 3 BTEC and a degree. Our intensive course helps to bridge this gap.

Our Chemistry Camps offered a chance for 100 students selected from schools across the UK to experience university life and explore the experimental aspects of chemistry. The aim is to get young people enjoying chemistry, sparking a long-term interest in the subject.

Working with the Dorcan Academy in Swindon, we offered special higher education 'taster' sessions for the five feeder primary schools. After spending time on campus, where the students captured their thoughts on film, we helped to organise a special graduation ceremony for the 200 pupils.

In the city, our Higher Education Advice Team organised free drop-in sessions to help local young people write personal statements. We wanted to support students working on their university application to give them a good insight into what prospective institutions look for when sifting through UCAS submissions.

Our intensive programme for local sixth-formers 'On Track to Bath' was also launched, designed to improve A Level grades and prepare students for university study. On Track students in Year 12 and 13 attend a series of masterclasses, carry out a research project and take part in a residential course. This is a targeted programme, specifically for those groups under-represented in Higher Education.

Many of our activities are supported by student ambassadors and student tutors, carefully selected from current undergraduates or postgraduates. School and college pupils enjoy meeting and working with university students on summer schools, 'taster' days and as tutors in classrooms and after-school clubs.



Local schoolchildren taking part in a 'taster' day at the University

## Public engagement

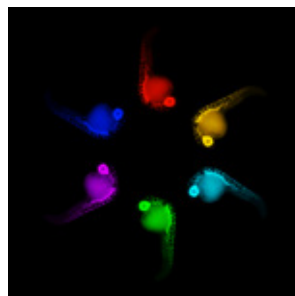
In 2012-13 we created a new Public Engagement Unit. Through the Unit we are supporting our researchers to build mutually beneficial links between their research and a variety of audiences, including members from policy or business communities, community groups or third sectors as well as the 'general public'. The Unit is building capacity among researchers and finding new opportunities for public engagement.

A key engagement opportunity the Unit oversees is the annual 'Images of Research' competition. Open to researchers of any discipline, this competition challenges them to tell people about their research through an eye-catching image and a short (150 word) plain English narrative.

The competition is an excellent way to show off the breadth of the research we are involved in, why it matters and how it makes a difference to society.

The 35 images entered as part of the 2013 competition were seen by over 1,500 people through exhibitions at the Fringe Arts Bath Festival, the Royal United Hospital and the Podium Library.

See last year's 'Images of Research'  
[go.bath.ac.uk/p26a](http://go.bath.ac.uk/p26a)



Understanding melanoma through colourful fish - Alberto Lapedriza's image of research which won this year's public vote

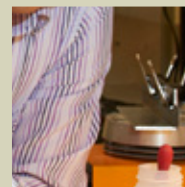
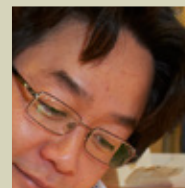
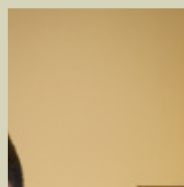
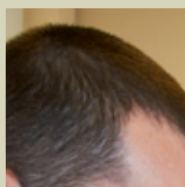
## Water wonder

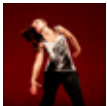
Physics students Carmen Cheng and Matthew Guy built a heated aluminium maze to demonstrate 'The Leidenfrost Effect', which occurs when a drop of liquid meets a surface significantly above its boiling point.

Initially created as part of an outreach project aimed at local schoolchildren, a video of the experiment showing water travelling 'uphill' has since clocked up over half a million hits online.

Footage of the 'Leidenfrost Maze' subsequently appeared across social media and in news reports throughout the world. The experiment has important implications for research into heat transfer and the development of cooling systems.

Watch the Leidenfrost Maze video and see some of the coverage its received  
[go.bath.ac.uk/p26b](http://go.bath.ac.uk/p26b)





# Students' Union

Our Students' Union (SU) plays an integral role in ensuring students at Bath benefit from a rich and diverse student experience during their time at university.

In 2012-13 the SU enjoyed more success, culminating in it being named the fourth best Students' Union in the country for student satisfaction according to the 2013 National Student Survey. Through the extra-curricular activities offered by the SU, Bath students are learning new skills, fostering their talents and helping to make a positive impact both on campus and in the local community.

## Active community

Through collaboration between academic departments and the SU, our students have an important voice in shaping their university experience. We listen and act upon their feedback and suggestions.

Our SU elections saw one of the highest turnouts nationally, with nearly 4,250 votes being cast. Over 2,000 student volunteers were elected to lead groups, activities and events for the SU.

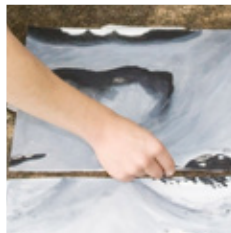
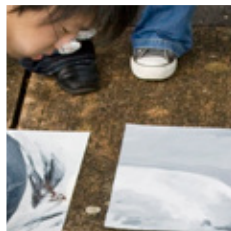
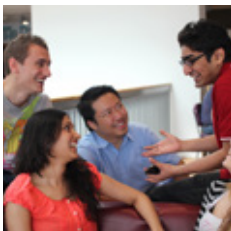
The *Times Higher Education Survey* showed a 26 per cent increase in satisfaction with our SU. The i-graduate Student Barometer showed a 96 per cent satisfaction rate.

## Local impact

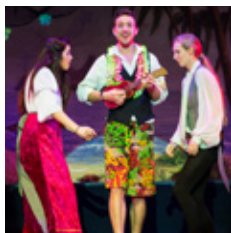
Through the SU, over 6,000 hours were volunteered by 800 of our students in over 35 organisations, including 250 hours spent helping in six local primary schools.

Our student-led volunteering group V-Team worked with over 20 local organisations, including Bath Rugby Foundation, Julian House and Sue Ryder Hospice.

Many sports clubs worked in the community, including our Basketball Club which managed coaching sessions for 1,370 children in six primary schools. Our arts societies put on over 35 shows and concerts on campus and in the community during the year.



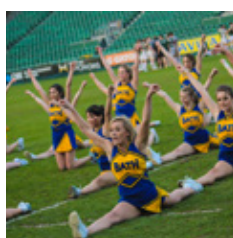
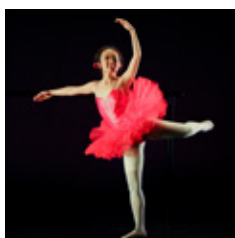
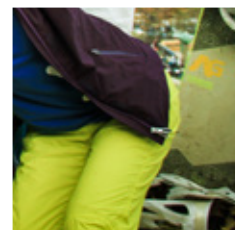
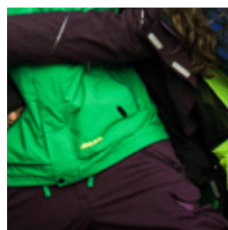
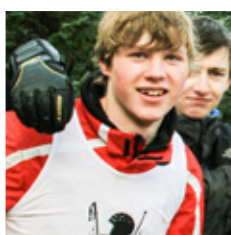
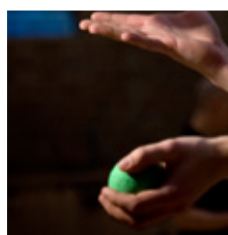
Find out more about our SU  
[go.bath.ac.uk/p27](http://go.bath.ac.uk/p27)



## Wider impact

Thanks to various events, our RAG (Raising and Giving) Charity Society raised over £50,000 for local and national charities last year. Our students volunteer their time and skills to help raise money for many worthy causes both at home and abroad.

This year over 200 international and home students enjoyed a Celebration of Diversity, including performances, food tasting and cultural debates during 'One Bath' week.





# Sporting success

**We were proud to be chosen to host the Special Olympics GB National Summer Games. Our university was the main host venue for the Games, which took place in August 2013.**

As one of the biggest sporting events the University has hosted in recent years, we welcomed over 1,700 athletes from around the country to the campus, as well as many spectators from the local community who joined us in celebrating success.

Being able to make use of world-leading facilities was a fantastic experience for the competitors, enabling many to achieve personal bests in an array of disciplines on the day.

Earlier in the year, Team Bath Netball won the FastNet grand prix for the first time and then completed an impressive double by beating Celtic Dragons 62-56 in the Superleague grand final to take their tally to five Superleague titles from just eight campaigns.

2012-13 also saw us chosen as one of the three Intensive Netball Training Centres, launched by England Netball, and as one of British Swimming's two National Training Centres.

A number of performance athletes training at the University won world championships. These included: Paul Blake (Paralympic Athletics World Championships, France); modern pentathletes Kate French, Samantha Murray and Mhairi Spence (World Championships in Chinese Taipei); Stephanie Millward (Paralympic Swimming World Championships in Canada); and Laura Gallagher (member of the GB team to win gold at the Trampoline Gymnastics in Bulgaria).

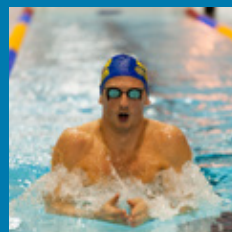
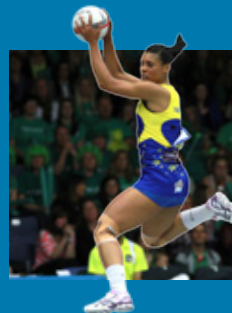
In two years of Active Universities-funded projects, more than 3,000 students have started their journey to taking more exercise.

Student teams continued to perform well, with the women's tennis team's back-to-back British Universities and Colleges Sport titles among the highlights.

Our world-class sporting facilities continue to be used by our students, staff and the local community, alongside performance athletes. Around 1.3 million people make use of our Sports Training Village annually.

**"In my wildest dreams I could not have wished for a more successful event. These Games will go on record as being our 'smiliest Games' ever."**

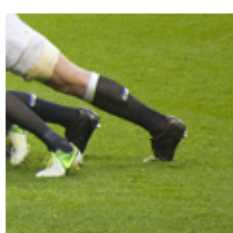
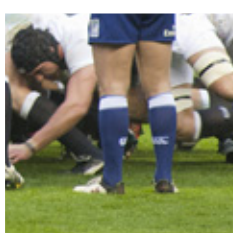
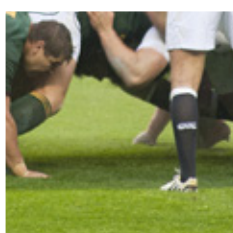
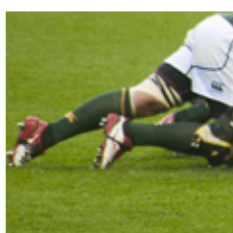
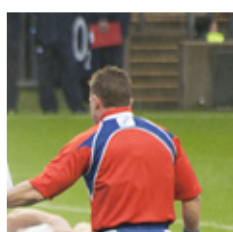
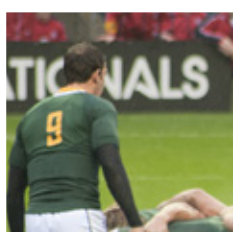
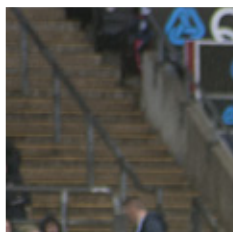
**Karen Wallin**  
Special Olympics GB Chief Executive



Credit: Sam Farr

Watch a video of the Special Olympics highlights  
[go.bath.ac.uk/p29](http://go.bath.ac.uk/p29)





Research from our Department for Health aims to make rugby scrums safer for players around the world



## Crouch, bind, set!

A major change to rugby laws came into effect this year as a direct result of research from our Sport, Health & Exercise Group.

Intended to improve player safety by reducing scrum engagement forces, the new 'crouch, bind, set' scrum sequence is the outcome of a three-year study to examine the physical demands being placed on players in the scrum. The research looked at ways in which these demands could be reduced. On the basis of our work, the International Rugby Board (IRB) this year announced the global implementation of the new technique which should reduce impact forces experienced by players and lead to a more stable platform with fewer scrum collapses and resets.

Read our research feature on safer rugby scrums  
[go.bath.ac.uk/safer-rugby-scrums](http://go.bath.ac.uk/safer-rugby-scrums)

**“Our team was delighted to be able to produce this research which was immediately implemented by the IRB in their changes to the scrum engagement process. Our research group is focussed on injury reduction in sport and we hope this piece of work will make a positive contribution to reducing injuries across all playing levels in rugby union.”**

**Dr Grant Trewartha,**  
Lead researcher

■ Scrum injuries make up around 40 per cent of serious injuries in rugby.

■ With around five to six million rugby players worldwide, efforts to reduce this force could have a huge positive impact on the long-term health of many players.

# Consolidated income and expenditure account for year ended 31 July 2013

Consolidated		
	2013	2012
	£000	£000
<b>Income</b>		
Funding council grants	49,020	58,535
Tuition fees and education contracts	88,839	70,737
Research grants and contracts	27,389	27,358
Other income	40,460	36,650
Endowment and investment income	2,431	3,368
<b>Total income</b>	<b>208,139</b>	<b>196,648</b>
<b>Expenditure</b>		
Staff costs	110,064	104,154
Other operating expenses	67,556	66,950
Depreciation	11,123	10,959
Interest payable	2,819	3,609
<b>Total expenditure</b>	<b>191,562</b>	<b>185,672</b>
Surplus after depreciation of tangible fixed assets at cost/valuation and before exceptional items	<b>16,577</b>	10,976
Write-down of fixed asset investments	(320)	(404)
Exceptional Items :		
Surplus on disposal of assets	22	246
Surplus on continuing operations after depreciation of assets at cost/valuation, exceptional items and tax	<b>16,279</b>	<b>10,818</b>
Transfer from accumulated income in endowment funds	88	23
Surplus for year retained within general reserves	<b>16,367</b>	<b>10,841</b>

# Balance sheet as at 31 July 2013

	Consolidated		University	
	2013	2012	2013	2012
	£000	£000	£000	£000
<b>Fixed Assets</b>				
Tangible assets	260,330	229,949	262,833	232,952
Investments	919	1,240	919	1,240
<b>Total fixed assets</b>	<b>261,249</b>	<b>231,189</b>	<b>263,752</b>	<b>234,192</b>
<b>Endowment Asset Investments</b>	<b>4,641</b>	<b>4,361</b>	<b>4,641</b>	<b>4,361</b>
<b>Current Assets</b>				
Stock	686	764	686	764
Debtors	12,782	14,257	12,782	14,257
Investments	73,615	88,278	73,615	88,278
Cash at bank and in hand	10,781	2,177	10,768	2,151
	97,864	105,476	97,851	105,450
<b>Creditors: Amounts Falling Due Within One Year</b>	<b>(46,263)</b>	<b>(37,798)</b>	<b>(46,263)</b>	<b>(37,798)</b>
<b>Net Current Assets</b>	<b>51,601</b>	<b>67,678</b>	<b>51,588</b>	<b>67,652</b>
<b>Total Assets Less Current Liabilities</b>	<b>317,491</b>	<b>303,228</b>	<b>319,981</b>	<b>306,205</b>
<b>Creditors: Amounts Falling Due After More Than One Year</b>	<b>(98,800)</b>	<b>(100,900)</b>	<b>(98,800)</b>	<b>(100,900)</b>
<b>Net Assets Excluding Pension Liability</b>	<b>218,691</b>	<b>202,328</b>	<b>221,181</b>	<b>205,305</b>
<b>Net Pension Liability</b>	<b>(26,737)</b>	<b>(32,015)</b>	<b>(26,737)</b>	<b>(32,015)</b>
<b>Net Assets Including Pension Liability</b>	<b>191,954</b>	<b>170,313</b>	<b>194,444</b>	<b>173,290</b>
<b>Deferred Capital Grants</b>	<b>91,910</b>	<b>93,256</b>	<b>91,795</b>	<b>93,129</b>
<b>Endowments</b>				
Expendable	2,854	1,864	2,854	1,864
Permanent	1,787	2,497	1,787	2,497
	<b>4,641</b>	<b>4,361</b>	<b>4,641</b>	<b>4,361</b>
<b>Reserves</b>				
Income and expenditure account excluding pension reserve	122,140	104,711	124,745	107,815
Pension reserve	(26,737)	(32,015)	(26,737)	(32,015)
Income and expenditure account including pension reserve	<b>95,403</b>	<b>72,696</b>	<b>98,008</b>	<b>75,800</b>
<b>Total Funds</b>	<b>191,954</b>	<b>170,313</b>	<b>194,444</b>	<b>173,290</b>



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