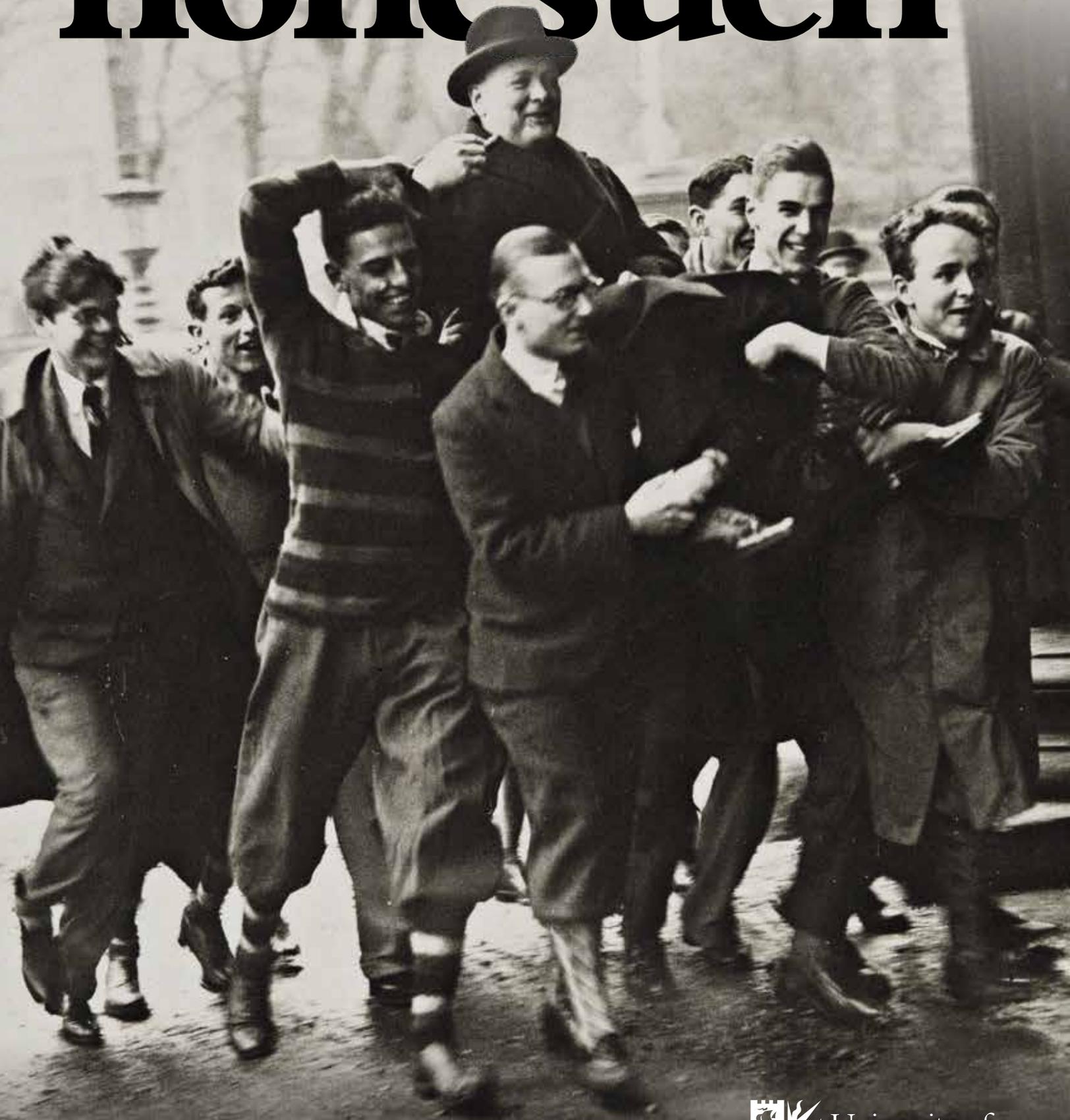


THE UNIVERSITY OF BRISTOL MAGAZINE // AUTUMN 2015

nonesuch



BRISTOL'S CHURCHILL: 1929-65

More online

Make sure you visit bristol.ac.uk/alumni to keep up to date with news and stories from your fellow graduates. From starting popular snack company, graze, to encountering polar bears in the Arctic, you'll find advice and anecdotes from alumni working in a wide range of professions, all around the world.

Here are a few of our top picks:

Tesco Mum of the Year 2014, Laura Young (BSc 1990), explains how founding children's art therapy charity, the Teapot Trust, helped her deal with the loss of her daughter. bristol.ac.uk/alumni/teapot-trust



Arthur Rose (MB ChB 1957) left Poland as an adolescent after the Second World War, before winning a scholarship to study medicine at Bristol. In 2013, Rose won the Lifetime Achievement Award of the Child Neurology Society. bristol.ac.uk/alumni/arthur-rose

What do you wish you'd known before starting University? Natalie Jester (BSc 2011, MSc 2013, PhD 2013-) and others share their advice for this year's new students. bristol.ac.uk/alumni/welcome-week



To celebrate women working in science, technology, engineering and maths on Ada Lovelace Day, Olivia Joyner (BSc 2005, MSc 2006), Research Manager at YouGov, and others shared their career experiences and inspirations. bristol.ac.uk/alumni/ada-lovelace

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The nonesuch

The red nonesuch, the 'Flower of Bristol', gave its colour to the University's academic hoods and its name to the University's first student magazine, *The Bristol Nonesuch*, in 1911. *Nonesuch* in its current magazine form was first published in 1991 for 'all those who share a common interest in the University of Bristol.'



Nonesuch magazine // Autumn 2015
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Autumn 2015

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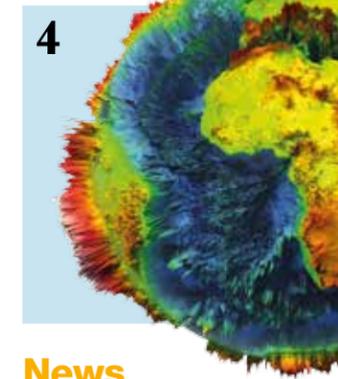
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nonesuch

Autumn 2015

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Innovators of the future

University

From September 2016, students will be able to study one of 11 new undergraduate courses that combine innovation with in-depth subject specialism.

The University's Innovation courses will offer students the chance to read a traditional academic subject, like anthropology, computer science or psychology, while also learning how to be entrepreneurs and innovators.

The programmes will be taught in a new, dynamic study space designed to facilitate creative team-working, and students will be encouraged to develop solutions to pressing global issues in health, the environment and education, building on Bristol's exceptional research base in these areas. The University's existing track record of commercialising

innovations, together with the city's reputation for creativity, high-growth technology and enterprise, make Bristol ideally placed to offer students these new courses. Third-year student, Dominic Chapman (BSc 2013-), who co-founded the online app, PilotPod, in his first year of study, says: 'When I came to Bristol, I had no idea that the city was such a hub for creative ventures. The Innovation courses will see students immersed in that space, and it's a great time to be involved.' For more information, and to see a full list of courses, please visit bristol.ac.uk/innovation.



Waiting in the wings

Engineering

Aircraft wings that 'self-heal' after being damaged could become a reality in the next five to ten years, thanks to technology developed by Bristol experts in aerospace engineering and chemistry.

Taking inspiration from the way human blood scabs, Professor Duncan Wass' team has created tiny microspheres that can be embedded in the carbon of the aeroplane wing and release a liquid agent on impact. The liquid seeps into any cracks caused by the impact and hardens, thanks to an additional catalyst used when making the wing. In the future, this technology could translate to many other everyday products, including bike helmets, mobile phone screens and nail varnish.



Giving India a voice

Alumni

Astrophysics graduate, Shreya Singhal (BSc 2012), made headlines after playing a pivotal role in safeguarding the right to freedom of speech on India's internet.

In November 2012, Singhal filed a public interest litigation, challenging Section 66(A) of India's Information Technology Act. Section 66(A) related to penalties for people 'causing offence' online, and Singhal was growing increasingly concerned by its use in a number of arrests, including that of two girls who posted and liked a question on Facebook. Singhal's case was taken up by the Chief Justice of India, and in April, the court finally ruled Section 66(A) to be 'unconstitutional' on account of its 'open-ended, undefined and vague language'. The result has been widely welcomed by free speech campaigners and media groups in India.



Making a chain-ge

Thanks to alumni gifts, students were able to decide how to spend £20,000 to enhance their University experience.

1,600
students voted

£20,000
alumni donations

50
bicycles for students to rent during term time



Messel magic

Arts

The University of Bristol Theatre Collection has acquired the personal archive of one of the 20th century's foremost theatrical designers, Oliver Messel (1904-78).

Thanks to an £80,000 grant from the National Heritage Memorial Fund, as well as generous support from alumni, friends and charitable foundations, the University was able to purchase this impressive collection, which includes around 30 boxes of correspondence, as well as thousands of photographs and technical drawings. Jo Elsworth, Director of the Theatre Collection, said: 'The Messel archive will provide a wonderful insight not only into the process of "making" theatre or film but also the theatricality inherent in 20th-century society life. As a fully accredited museum, we have the knowledge and expertise to preserve the "Messel magic" for future generations, and now hope to raise the money required to catalogue and conserve the archive.'

Broadcast illustration © Alberto Antoniazzi // Innovators of the future © University of Bristol Oliver Messel © Angus McBean, Houghton Library, Harvard University // Shreya Singhal © Narendra Bishit, Outlook



MBE for computer science graduate Jenny

Alumni

Jenny Griffiths (MEng 2009), whose fashion app has changed the way people shop online for clothes, has been awarded an MBE for her achievements, at the age of just 27.

Griffiths came up with the idea for Snap Fashion while at Bristol, working on the concept as part of her thesis. In 2009, she won £15,000 in the University's New Enterprise Competition to further develop the app. 'I was so surprised when I heard about the MBE – I just think what I'm doing is normal,' says Griffiths.

Snap Fashion is a visual search engine that lets users 'snap' a picture of an item of clothing – in a magazine, online or on the high street – and searches for similar

items from online retailers. Griffiths says: 'It's amazing how quickly it's grown in popularity. We now have 250 retailers on board, and people take a quarter of a million "snaps" every month.'

Nine Bristol alumni were recognised in the 2015 Queen's birthday honours list, including Sir Philip Campbell (BSc 1972, Hon DSc 2008), Editor-in-Chief of science journal, *Nature*, who received a knighthood for services to science. For the full list, please visit bristol.ac.uk/nonesuch.

Teocah's top accolade from the Queen

Alumni

In recognition of her outstanding voluntary work, Teocah Dove (MSc 2014) was among 60 young people across the Commonwealth to receive a Queen's Young Leaders Award at a ceremony at Buckingham Palace in June.

Dove has been volunteering in her home country of Trinidad and Tobago and the wider Caribbean for ten years, primarily in youth and community development. 'It is an honour and a humbling experience to be recognised by Her Majesty the Queen,' she says. 'The award, which includes a residential programme and mentorship, has truly empowered me to make a difference in the future.' Dove is now working to help young people in the juvenile justice system, and provide young people and women with training and employment opportunities in agriculture.



News

1 New-look Students' Union // University

Completed in March, the £30 million transformation of the Richmond Building, home to the Students' Union since 1965, includes 200 new study spaces, a digital media suite and two state-of-the-art theatres. The popular gig venue, the Anson Rooms, was also given a makeover, as was the café bar, the Balloon, where moss 'paint' grows on the interior walls.



2 Bristol in Beijing // Alumni

Almost 1,000 people took part in a graduation ceremony in Beijing for Bristol alumni living in China. Guests collected their degrees in front of a visualisation of the Clifton Suspension Bridge, and posed for photos with pictures of Bristol landmarks.



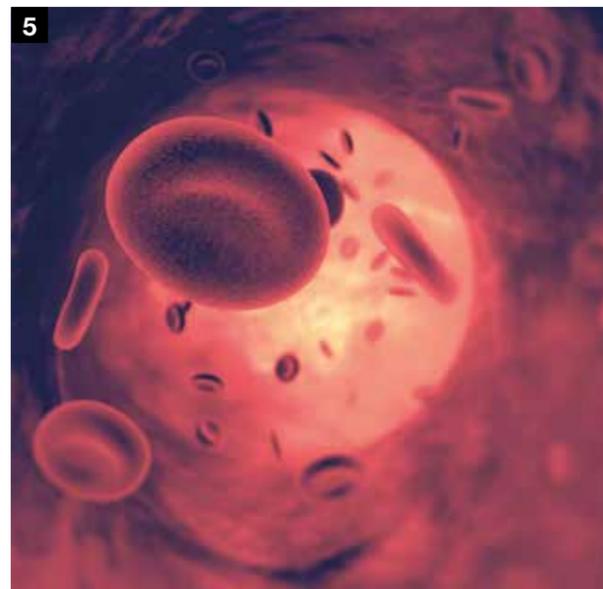
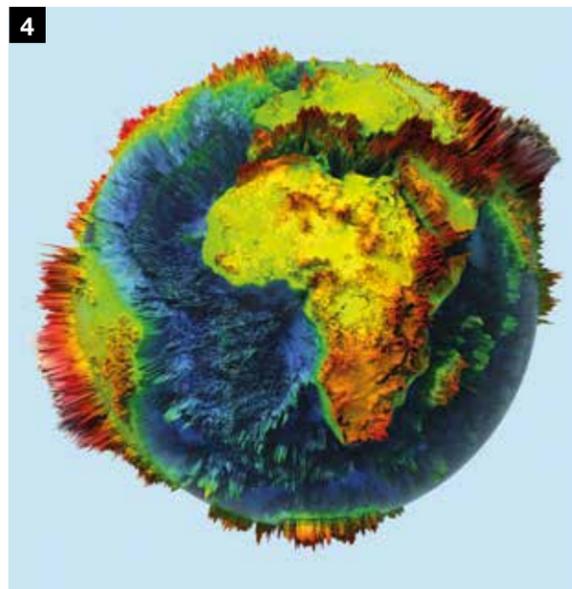
3 Flock 'n Roll // City

A giant Union Jack-inspired Shaun the Sheep, Flock 'n Roll, sponsored by the University and created by Carys Tait, took up residence outside the Victoria Rooms as part of the charity arts trail, Shaun in the City. You can read an interview with Sophie Smith (BA 2003), who worked on *Shaun the Sheep Movie*, at bristol.ac.uk/nonesuch.



4 Out of this world // Environment

To celebrate Bristol's year as European Green Capital 2015, scientists at the Cabot Institute shared complex environmental and planetary data with At-Bristol's digital 3D planetarium to create a family-friendly show, 'Blue Marvel', and raise awareness of issues facing the world we live in.



5 Synthetic blood // Medicine

Scientists at Bristol and NHS Blood and Transplant announced that the first human trials of lab-produced blood will take place within two years. Being able to manufacture unlimited red blood cells will help patients with complex blood disorders and those needing emergency transfusions.

6 Mystery in Berlin // Alumni

Ben Fergusson (MA 2013) won the 2015 Betty Trask award for his novel, *The Spring of Kasper Meier*. The £10,000 prize is given to a debut author aged under 35.

7 Puppy love // Student

Stressed-out students were offered a helping 'paw' when working guide dogs visited the Centre for Sport, Exercise and Health during exams. More than 600 students took time out to hug the cute canine pups, raising more than £1,300 for Guide Dogs.

**In brief
Alumni**



Christian Karl Stead (PhD 1959, Hon DLitt 2001) ONZ CBE has been appointed the New Zealand Poet Laureate 2015-17. After spending much of his career in academia, Stead retired in 1986 to write full-time. His work includes poetry, novels and short stories.

A Facebook plea from sisters **Georgie (BA 2014)**, Emma and **Sophie Ireland (BSc 2010)** to find a bone marrow donor for their dad became a national campaign, Give Our Dad A Bone, in just 24 hours. The campaign was featured on *Good Morning Britain* and the front page of the *London Evening Standard*, and has encouraged thousands of people to join the UK donor register.

Molecular geneticist, **Dr Alison Goate (BSc 1980)**, has joined the Mount Sinai Health System in New York as the founding Director of the Ronald M. Loeb Center for Alzheimer's Disease.

Former captain of the University swimming team, **Liam Barnett (MEng 2010)**, won seven gold medals and broke four world records in the 2015 World Transplant Games in Argentina. Barnett underwent a liver transplant four years ago. Teammate **Richard Adams (BSc 1971)** also won a gold, silver and bronze medal after undergoing a bone marrow transplant in 2010.

Puppy love © Bhargesh Sachdev // Students' Union © Liz Eve, torobaus // Shaun the Sheep © Stephen Lewis, Wallace & Gromit's Children's Foundation. Charity no. 1049603
Shaun the Sheep in the City and "Out of this world" © Seamus Foley, At-Bristol Science Centre



Close to the bone

Medicine

Scientists have developed a new tissue 'scaffold' technology that could one day allow them to grow entire organs in the lab.

Stem cells are already used to grow smaller pieces of tissue for transplants but, until now, scientists have had limited success with larger organs – primarily because their size makes it harder for oxygen to reach the cells in the centre. Now, research led by Dr Adam Perriman from the University of Bristol and Professor Anthony Hollander from the University of Liverpool has shown

that it is possible to attach an oxygen-carrying protein, myoglobin, to the stem cells, ensuring that each cell has its own oxygen reservoir when levels drop dangerously low. The team hopes this breakthrough will create new possibilities for repairing damaged tissue in conditions like hip and knee osteoarthritis as well as severe injuries caused by major trauma, for example road traffic accidents.

Harry Potter inspires new reptile name

Science

Recent Earth Sciences graduate, Catherine Klein (MSci 2015), has named a newly identified species of ancient reptile after a Harry Potter spell.

Klein's research showed that fossils found in a previously unstudied quarry in Gloucestershire belonged to a new species of the 'Gloucester lizard' (*Clevosaurus*). But it was the reptile's self-sharpening blade-like teeth that inspired its full species name, *Clevosaurus sectumsemper*. The lizard's teeth are arranged so that they cut past each other very precisely: with each bite, the teeth are sharpened. 'Sectumsemper means "always cut", and was chosen to reflect this,' explains Klein. 'It is also a nod to the Harry Potter character Severus Snape, who made a spell called *sectumsempra*, perhaps meaning "sever forever".'



Building alumni outreach

Alumni

Julie Goldstein (BSc 1978) was elected Chair of Convocation and the Alumni Association in the 2015 elections.

After graduating with a degree in physics, Goldstein embarked on a career in finance, joining KPMG in Bristol and qualifying as a chartered accountant. She then went on to build an international career in finance and general management, holding senior positions for companies within the marketing and communication sectors in London and New York, before co-founding an entrepreneurial media business. 'I am delighted to be taking on this role,' she says, 'and I look forward to contributing my strategic leadership skills and international business expertise to further advance the alumni community and the University.' Goldstein succeeds Bill Ray (BSc 1975), who stepped down as Chair this summer after two terms of service.



Bristol best for city life

City

Bristol topped the polls for its city life in the Whatuni Student Rankings, a major survey of 20,000 university students across the country.

Bristol beat stiff competition from Cardiff, Manchester, Glasgow and Newcastle to take the top accolade, with students citing Bristol's music scene, club nights, festivals and green spaces as some of the many reasons why they love the city. Bristol was also ranked the best city to live and work in after graduation by *The Sunday Times* in September.

Cosset to the bone © Warwick Bromley // Clevosaurus © Katharine Whiteside // Bristol's Harbourside © Jon Jerome

Simon Pegg © Dave Willis



'I'm not just a clown...'

Feature

Hollywood actor, comedian and writer, **Simon Pegg** (BA 1991), studied Theatre, Film and Television and, for his final-year dissertation, looked at how Marxist modes of critical theory could be applied to *Star Wars*. Earlier this year, he came back to Bristol to open the Pegg Studio Theatre in the newly refurbished Students' Union, and recall his student years.

I was a semi-conscientious student – a bit of a tearaway, and then I got my head down towards the end, as you're supposed to do. I think most students go through that – they find this incredible freedom, find academia to be quite fun, then realise that it actually takes some serious legwork.

My favourite place on campus was a little turret on the top of the Drama Department. I used to sit up there and eat pasties by myself when I wanted to get away from things.

The variety of stuff we studied and participated in at Bristol totally informed what I went on to do. Certainly the way I write comedy; it's never just knockabout silly stuff. We always try to have some fundamental truth in it and not shy away from being serious. I'm often referred to as a comedian, and that gets my back up. I'm an actor, not just a clown. I'd certainly like to do more serious acting in the future.

My final-year piece was Schreber's Nervous Illness by Carly Churchill. It's a very anguished play about a guy whose mind is falling apart. That was very serious. Over-serious, I think. I was on stage, alone, in my pyjamas.

I would love to go back and sit in the audience of some of our productions. *Ex*hibit*, my first *Bodies in Flight* show [a theatre company directed by Professor Simon Jones], had great Iggy Pop music. We did some shows that were very raw, and very exciting to be part of.

'BRISTOL WILL ALWAYS BE OF GREAT SENTIMENTAL VALUE TO ME'

Now, when I write, I'm always thinking about what I'm saying. I learnt very quickly at Bristol that there is no such thing as a meaningless text: everything is an expression of whatever preoccupations or fascinations we have at the time. I've taken that on in everything I do. Yes, we're writing a frivolous zombie comedy on the one hand, but on the other, we're saying something about family and the desire to kill your mum.

I drifted towards comedy as a way of being more autonomous. As a stand-up comic, you're guaranteed more performance time. It was because I was seen by producers that I wound up in shows like *Big Train* [a comedy sketch show first broadcast on BBC Two in 1998].

I grew up liking horror films and comedy films, as well as comedy horrors like *Young Frankenstein* and *An American Werewolf in London*. They just felt like something



Schreber's Nervous Illness © John Adler, courtesy of the University of Bristol Theatre Collection
Simon Pegg at the University of Bristol © Bhagadesh Sachana



I wanted to participate in. My friend Edgar [Wright] who directed *Shaun of the Dead* felt the same. We found each other because of it. Nerds.

My favourite flavour of Cornetto is mint. Easy.

It's a great honour to have a theatre named after me. I used to come here to see bands and drink beer out of a plastic cup for 70p a pint. I've found it hard to recognise much of the building – it's changed so much – yet it feels familiar. It used to just smell of beer and students, but it's been beautifully changed and modernised.

Bristol will always be of great sentimental value to me. It was incredible to discover that education could be so enjoyable. Not easy, and certainly, at times, extremely hard work. But I wouldn't change a thing, not even the times I found difficult. I have no regrets at all. It was all worth it.

As well as opening the Pegg Studio Theatre, Pegg also met current drama students for a question-and-answer session. You can watch ITV West's interview with Pegg at bristol.ac.uk/nonesuch.

Left Pegg performed *Schreber's Nervous Illness* in his final year (1991)
Above Pegg enjoyed a whistle-stop tour of the newly refurbished Richmond Building before officially opening the Pegg Studio Theatre

Taking flight

Professor of Performance, Simon Jones, remembers Pegg as a student who 'combined passion and playfulness', and as the person who introduced his daughter to Star Wars.

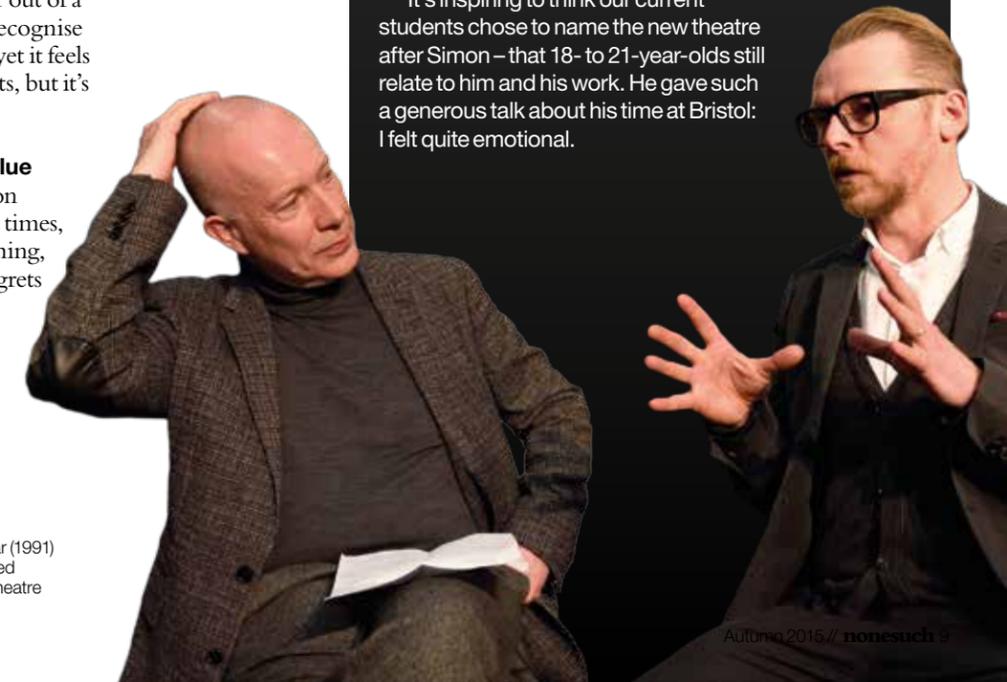
For me, Simon has always been very close to the persona you see in his work. When I first saw *Spaced* [a sitcom co-written by and starring Pegg, first broadcast on Channel 4 in 1999], I remember vividly thinking: 'that's how Simon is'. It's a distinctive yet common feature among students who have gone on to be successful: their personality is so much part of their work.

Simon was clearly interested in all things comic, particularly stand-up, but was keen to sample different kinds of performance, theatre and media too. He did some very serious work at Bristol, including Howard Barker's *Victory* and Tennessee Williams' *The Glass Menagerie*. What was interesting about the two shows he did with my theatre company, *Bodies in Flight*, was that his comic work still came out in what was otherwise a very experimental aesthetic.

It doesn't surprise me that Simon can do something like *Shaun of the Dead*, then get roles in *Mission Impossible* and *Star Trek*. He has an incredibly inventive and sophisticated understanding of genre, which enables him to play around with conventions and cross between forms.

We watched *Point Break* – one of my favourite action movies of the 1990s – together on several occasions, so it was great fun watching *Hot Fuzz* and seeing the way the sequences were recreated in a Somerfield supermarket instead of Los Angeles. Simon used to babysit my daughter too: I remember him bringing round his *Star Wars* movies on videotape to watch with her.

It's inspiring to think our current students chose to name the new theatre after Simon – that 18- to 21-year-olds still relate to him and his work. He gave such a generous talk about his time at Bristol: I felt quite emotional.





David Icke and the Orphans of Jesus

In this extract from his autobiography, *Nerd Do Well*, Simon explains how he was one of six students to perform as a cabaret troupe for a weekly comedy club in Clifton.

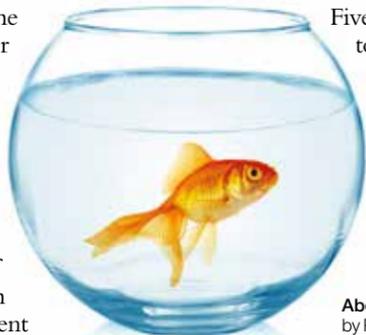


In our third and final year a small group of us with an interest in comedy banded together to form the recurring line-up for a weekly comedy club in Clifton, Bristol. We called ourselves David Icke and the Orphans of Jesus, after the BBC sportscaster who publicly unravelled, pronouncing himself the Son of God, extolling the virtues of wearing turquoise clothing and expounding conspiracy theories concerning a global cabal of shape-shifting lizards representing the true axis of world power. He made these proclamations with such equable rationale, it was hard to dispel the creeping dread that he might know something we didn't.

Whatever the truth of the matter, six Bristol University students [...] created a weekly showcase at the Dome restaurant in Clifton, which lasted for four weeks and much to our surprise drew in fire-officer-worrying crowds to every show. Dominik Diamond [BA 1992] was the brains behind the enterprise, characteristically seeing it as a way to earn a few quid. [...]

Joining Dominik and myself were Myfanwy Moore [BA 1992], Barnaby (Carrier Pigeons) Power [BA 1991], David Williams [BA 1992] and Jason Bradbury [BA 1992]. We mixed up the running order every week, working from the socialist standpoint that we were all equal and should share the burden of opening and the luxury of closing the show (a standpoint Dominik was never comfortable with, what with him being a money mad maniac).

I had developed my act a little by this stage; I was in my third year and had performed at a number of cabarets in the drama department and the student union. I had started using the somewhat impractical gimmick of having a real live goldfish onstage with me. Rover, a fish I bought for my student



house, became the central theme of the act. The idea being that he was a Marxist poet, using me as a proxy to deliver his blistering political invectives. [...]

I was so committed to the idea that I would actually take the trouble of bringing the fish tank to gigs and placing it on a stool next to me so that the audience could witness the fish swimming around during the show. [...] I had also worked as a lifeguard at the Gloucester Leisure Centre by this time and channelled much of my poolside experience into my act, often performing actually wearing my lifeguarding uniform.

My stage persona took the form of a lovestruck, congenital liar who worked in a swimming pool, claiming that films such as *Close Encounters of the Third Kind* and *RoboCop* as well as comic-book characters such as Batman and Spider-Man had been ripped off from events in his own life [...].

The success rate of the erstwhile members of David Icke and the Orphans of Jesus has been fairly impressive. Dominik Diamond went on to become an accomplished broadcaster, Myfanwy Moore moved behind the camera and became a highly influential producer at the BBC and was instrumental in bringing me and another member of the group to the attention of the Paramount Comedy Channel in the mid-nineties, Barnaby Power continues to work in theatre as an actor, Jason Bradbury is now host of the hugely popular *Gadget Show* on Channel

Five, and David Williams changed his name to Walliams and joined forces with a young graduate called Matt [Lucas, 1993-95] the year after I left. Sadly, I have no idea what happened to them. ●

This excerpt from *Nerd Do Well* has been reproduced here with kind permission from both Penguin Random House UK and the US edition, published by Gotham, an imprint of Penguin Publishing Group, a division of Penguin Random House LLC.

Above Pegg in *Rough*, a *Bodies in Flight* show directed by Professor Simon Jones (1992)

Rough © Edward Dimsdale (BSc 1987)

Manor Hall opened in 1932 as a women-only residence. Here, **Lilian Brown** (née Oakman) (BA 1951, Cert Ed MA 2005) shares her memories of life in hall shortly after the Second World War.



Alumni stories

All Manor of mischief



My stay in Manor Hall began in 1948. We were expected to hotfoot it back from lectures for lunch and assemble for dinner every evening. We would wait while the staff and our warden, Gladys Morgan, proceeded to the High Table and then stand for the Latin Grace. Latecomers – heaven help them – had to adopt a penitential posture until Gladys chose to acknowledge them with a brusque nod of the head.

Food was still heavily rationed until 1951, my third year in hall. There were national penalties for wastage, so perhaps Manor Hall could be excused its seriously bad dinners. Protests from the Junior Common Room were useless until Marjorie Avery (BA 1950) called a secret meeting. Rebellion! The High Table arrived to an empty gallery. There was official displeasure but the food did improve.

Gladys took her *loco parentis* duties very seriously. Your own front door key? Certainly not. Male guests had to be signed in and out, whatever the time, and there were rumours of a tunnel under Wills Hall that enabled assignations after hours. We had to find devious

means to beat the system and did, even though we faced severe penalties. Even for a minor offence, you could be 'gated' for a week and expected to report daily to the office.

Once, returning from a party I really hadn't wanted to miss, I faced the small problem of the gate to the garden. Its height was not insuperable. All I had to do was place my feet between its top prongs – my legs were long enough surely – pull myself up and jump down. Simple. I transformed into a crouching Quasimodo figure, humped over the gate, trapped by my jammed shoes. It was too risky to untie my laces, but I was constantly lit up by passing cars, and exposed to the officials in Clifton Hill House. Feeling the breath of both wardens on me, I took Shakespeare's advice: 'desperate diseases must have desperate remedies'. Clinging on with one hand, I managed to untie my laces, get my feet out of my shoes and somehow jump down. As I did so, the gate swung open! ●

Manor Hall Association celebrates its 90th anniversary this year, after originally forming in 1925 as the Elton House Association. For more memories of Manor Hall, including a bingo guide to Dr Martin Crossley Evans' welcome speech, please visit bristol.ac.uk/nonesuch.



Feature

Climate change is one of our biggest challenges. So why aren't more of us taking it seriously? George Marshall (BSc 1985), author and co-founder of Climate Outreach, and Professor Stephan Lewandowsky, member of Bristol's Cabot Institute, consider what roles psychology and politics play in the climate change debate.

Mind over matter

George Marshall (GM) People respond very differently to climate change, and very few respond in proportion to its potential dangers. When people do pay attention to climate change, generally two things have happened: the issue has taken a form that speaks to their values, and it comes with a social signal from a peer group. For people who reject climate change, it carries a different signal: it's a lie or myth. Then there are the people in the middle who have a sense that there's a threat, but they don't *feel* that threat. Ask them what they think the greatest threat will be in the future, and they'll mention climate change. But ask them what's the greatest threat now, and they won't.

Stephan Lewandowsky (SL) That's true. People's attitudes are fragmented and context-specific: they will contradict themselves in different settings. We call that 'knowledge partitioning'. People have little parcels of knowledge that they tap into depending on the situation, but they don't often integrate those parcels. There's an opportunity there to determine which context is most effective for eliciting an engaged response.

GM Climate change has, quite dangerously I think, been shaped by its origins in earth science, which has a very data-driven culture. There's often an assumption that people operate on an entirely rational level: that if they don't get it, they simply don't have enough information.

SL Yes, whereas actually, it's about *how* that information is communicated, especially when it involves uncertainty. My research has shown that if people are told an outcome is uncertain, they find that less threatening than if an outcome is guaranteed but its timing is uncertain. For example, if you say sea levels may rise between ten and 90 cm, people say: 'with a bit of luck it'll just be ten centimetres'. But it's just as true to say sea levels are almost guaranteed to rise by 50 cm; the question is whether that's by 2040 or 2060. People are more concerned about that, because there's no uncertainty about the outcome, only the timing.

StephanLewandowsky © Dan Rowley

'THERE'S AN ASSUMPTION THAT IF PEOPLE DON'T GET IT, THEY DON'T HAVE ENOUGH INFORMATION'

George Marshall

GM Do you think people with conservative, hierarchical views inherently find climate change a more challenging problem?

SL Well, we do know that people's worldviews are a primary driver of their attitudes. People who are politically conservative and endorse free markets are very likely to reject the findings from climate science. The strength of that relationship never ceases to amaze me.

GM I think climate change has taken on the form of its greatest advocates. For my colleagues in the environmental community, it fully reinforces and validates their view of the world, so they've given it the look and shape of their own values.

SL I don't agree. Outside English-speaking countries, climate change isn't challenging to conservatives. Germany is decarbonising at an amazing rate. There are hardcore ideologues in every country who pretend that climate change isn't a problem, but it certainly hasn't become a political football in the same way that it has in the US or Australia.

GM The German example is interesting. Research there showed that the only issue dividing those who believe in climate change from those who don't is the extent to which they're engaged with the political process itself. So an engaged conservative is as likely to accept climate change as an engaged liberal.

SL We also know that people who think we can't solve the problem are likely to deny the problem, because they think it's unsolvable. I think that's where the conversation should be: how the problem can be solved, how we can transform the economy and how we can decarbonise. We have the tools, it's just a matter of political will.

GM We have to recognise that the lack of immediate salience is a problem too. The issues we automatically lock onto are those causing problems that harm us now. With climate change, we have a very weak narrative, with multiple voices. That leaves the issue wide open to interpretation, and to people creating a narrative of intentionality: 'they're the enemy, they're causing it.' Instead, we need a metanarrative that recognises these different voices and approaches, so we can learn from each other.

SL I agree. We're talking about a problem bigger than anything humanity has ever seen – something so big that it's ridiculous to think we can condense it into one thing. We've got to have multiple voices, even if it's a cacophony at times. I do think the problem is solvable within our current economic system though. What's lacking at the moment is leadership, legislation and regulation. Once we address these, I think things will change very rapidly. ●

Marshall will give the Cabot Institute Annual Lecture on Wednesday 11 November 2015. A video of his talk will be available at bristol.ac.uk/cabot.



Marshall is author of *Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change*. Find out more at climateconviction.org.



Bristol's Churchill

Cover feature

A bogus tribunal, an undischarged incendiary and timeless words of encouragement: there's more to Churchill's stint as Bristol's Chancellor than meets the eye.

By Hilary Brown

nnumerable words have been written about Sir Winston Churchill, Britain's Prime Minister from 1940-45 and 1951-55, and widely regarded as one of the greatest wartime leaders of the 20th century. Yet few accounts amplify his 36-year stint as Bristol's Chancellor, a gap that the University has set out to plug in the year of the 50th anniversary of his death.

With a background in 20th-century cultural history and archival research, Dr Sophie Hatchwell (PhD 2015), a teacher in the Department of History of Art, was well placed to begin investigating primary sources relating to Churchill's chancellorship. In both Bristol's Special Collections and the archives of Churchill College, Cambridge, she uncovered a wealth of material, some of it previously uncatalogued, including letters, meeting minutes, speech typescripts, photographs, newspaper reports and degree ceremony programmes.

Leap in the dark

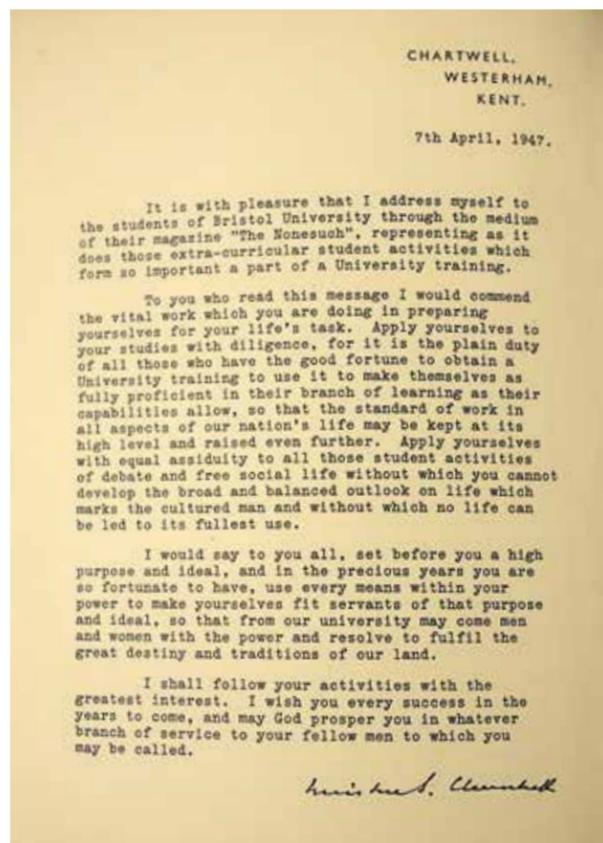
One of Hatchwell's finds was a transcript of a letter, dated April 1947, from Churchill to *The Nonesuch*, at that time 'the magazine of the Union of the University of Bristol'. In his dispatch, pictured right, the Chancellor encourages students to use the opportunities afforded them by their university education to 'fulfil the great destiny and traditions of our land'.

This letter, with its ringing endorsement of the student experience, offers an intriguing insight into Churchill's complex attitude to higher education. In his autobiography, Churchill describes himself as an 'uneducated man'; he didn't go to university, and while he regretted this to some extent, he was also wary of intellectuals and academics.

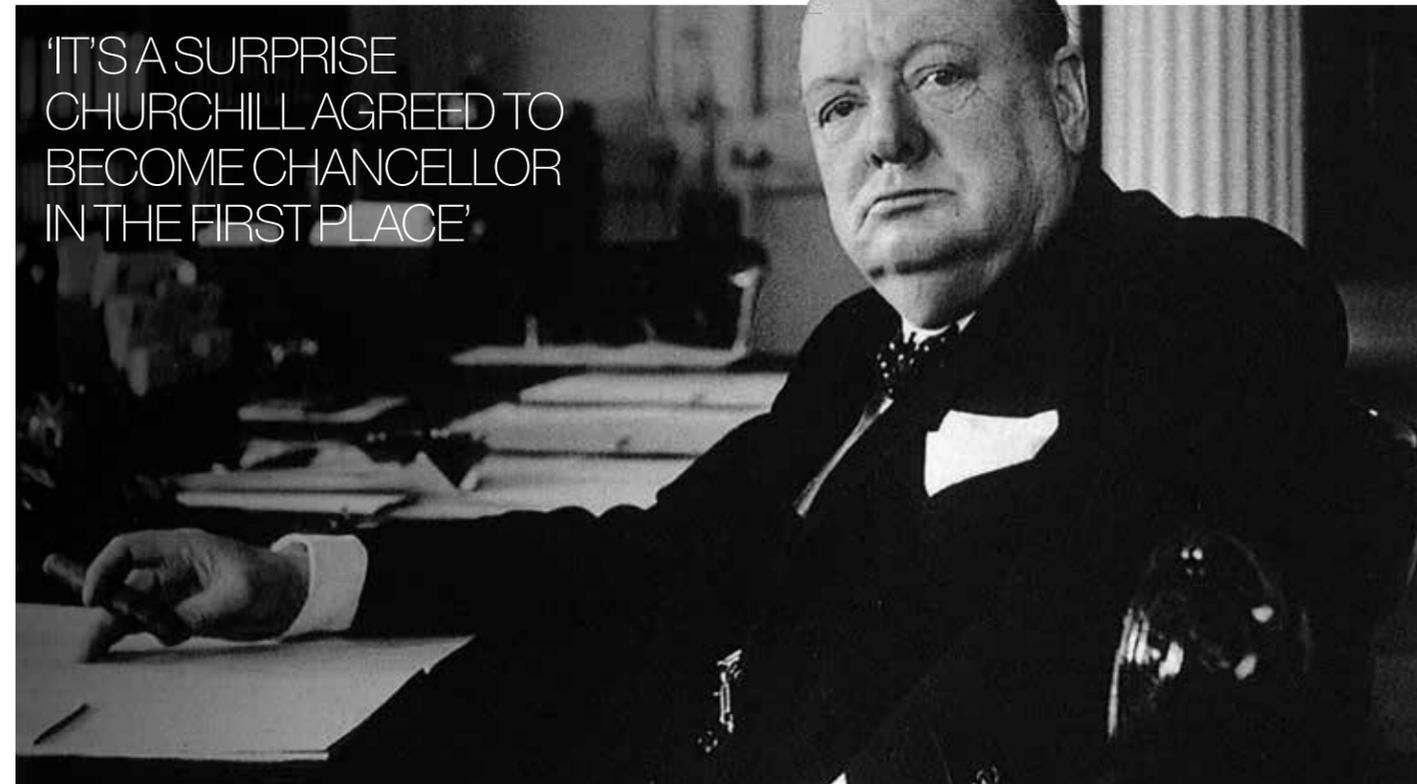
'Given this ambivalence, it's a surprise that Churchill should have agreed to become Chancellor of a university in the first place,' concedes Hatchwell, whose research in part addressed the circumstances behind the appointment. Neither did Churchill have any particular ties to Bristol. Indeed, on a visit to the city in 1909 to give a talk to the Anchor Society at Colston Hall, the Cabinet minister was struck with a riding whip by suffragette Theresa Garnett when he stepped off the train at Temple Meads.

Sir William McCormick, a renowned academic administrator, first proposed Churchill for the role of Chancellor; McCormick's involvement with the University Grants Committee, which was responsible for distributing Treasury funding to British universities, brought him into contact with Churchill as Chancellor of the Exchequer. The then Vice-Chancellor of Bristol, Thomas Loveday, pursued the idea. Despite his initial reluctance, Churchill agreed to become the University's senior officer in 1929. The appointment proved to be an astute, if not bold, move for the young institution.

Overleaf Students celebrate Churchill's installation as Chancellor in 1929 (DM250/2) **Above right** The Great Hall of the Wills Memorial Building after bomb damage in December 1940 (DM252/2) **Below right** Churchill's 1947 letter to *The Nonesuch* **Opposite top** Churchill at his seat in the Cabinet Room at No 10 Downing Street, London **Opposite bottom** Churchill conferring an honorary degree on Ernest Bevin in 1945 (DM254/76)



Installation celebration / bomb damage / honorary degree ceremony © University of Bristol Library, Special Collections Churchill's letter © Bhagesh Sachana / Churchill in the Cabinet Room © Imperial War Museum (MH.26.392)



'IT'S A SURPRISE CHURCHILL AGREED TO BECOME CHANCELLOR IN THE FIRST PLACE'

A man for all seasons

Churchill was popular with students from the start. After the installation ceremony, students carried him through the streets on their shoulders to the Victoria Rooms, home to the Students' Union at the time. Here he took part in a mock trial where he was arrested, tried and imprisoned for failing to provide the students with tea and buns (news footage of the event is available online at britishpathe.com/video/winnie-university-chancellor). The performance ended with the students carrying off his effigy. Later, when Churchill asked Loveday what his responsibilities would be, the Vice-Chancellor replied: 'everything and nothing'.

The University stood by its Chancellor throughout the 1930s, even though Churchill's political star was waning and he was concerned mainly with reviving his career in government. But he was always appreciative of Bristol's support. During the Second World War, when he was back in office, now as Prime Minister, he maintained links with the city through his Cabinet colleague Ernest Bevin, a local man. When the Wills Memorial Building was damaged by incendiaries in 1940, he wrote a letter of commiseration to Loveday.

Delving into Churchill's involvement with the University during the war, Hatchwell was able to shed more light on events previously documented but lacking in detail, including the Chancellor's visit to Bristol in 1941 for an honorary degree ceremony. Although the University hadn't planned to hold ceremonies during the war, Churchill suggested honouring Robert Menzies, the Prime Minister of Australia who was visiting Britain at the time, and John Winant, the newly appointed American ambassador, to help foster international relations.

The night before the event, Bristol was hit by its worst air raid of the war and the Wills Memorial Building sustained further damage. Dismissing smouldering rubble and what turned out to be an



University days

Drawing on Hatchwell's research, the historian Sir David Cannadine FBA, Dodge Professor of History at Princeton University, has written a book on Churchill's unique relationship with the University. *Heroic Chancellor: Winston Churchill and the University of Bristol 1929-65* was published by the University in August 2015.

Professor Sir David Cannadine also delivered a talk as one of a series of lectures covering various aspects of Churchill's life. You can listen to his talk, 'A different sort of Chancellor? Winston Churchill and the University of Bristol', at bristol.ac.uk/nonesch.

unexploded bomb, Churchill insisted that the ceremony go ahead, in a display of 'fortitude and phlegm'. It was held in the smaller but intact Reception Room next door to the decimated Great Hall. Crowds gathered outside the building to cheer the emerging graduates and University officers. Churchill was deeply moved by this show of support, and on the train back to London shielded his face with a newspaper to hide his tear-filled eyes.

'THE SHEER CALIBRE OF HONORARY DEGREE RECIPIENTS SHOWS HOW POLITICALLY TACTICAL HE WAS'

Local hero

Through her research, Hatchwell has gained an appreciation of Churchill's complex character. 'The sheer calibre of honorary degree recipients, for example, shows how politically tactical he was,' she explains (see panel, right). And then there's a softer side to the man, evident in his abiding fondness for Bristol. In 1954, in typically controversial Churchill fashion, and despite a full programme of 50th birthday celebrations having been planned for him in London, he exasperated government colleagues by choosing to spend time in Bristol, coinciding with the completion of the Queen's Building.

It was during this last visit to Bristol that students showed their lasting affection for the Chancellor, presenting him with a surprise silver salver after his final address at Colston Hall. 'He was such an inspirational figure,' says Hatchwell. 'From 1945 onwards, degree ceremonies over which he presided were always oversubscribed, and he received so many individual representations that the University eventually had to put measures in place to prevent students from contacting him directly.'

He also brought much prestige to the University. He was well liked by the public, and cultivated enduring links with local institutions such as the Society of Merchant Venturers. In 1945, he was awarded the Freedom of the City, a ceremonial honour bestowed as a token of appreciation for long and dedicated service. The award ceremony was accompanied by a celebratory parade through the city.

Words of wisdom

Hatchwell has relished the opportunity to delve into this previously under-researched area of Churchill's life, and now plans to focus on archival research in her academic career. But the greatest satisfaction has come from sharing the research during commemorative activities hosted by the University throughout the year. 'It's extraordinary to uncover new information about such an important figure as Churchill, especially because of what it tells us about his local connections to the University and the city,' says Hatchwell.

If the students who read the Chancellor's letter in *The Nonesuch* drew inspiration from it and used their opportunities and experience to improve 'any aspects of our nation's life', then Churchill – and the University – will have done their job. And while the words were written at a time when the country was struggling to recover from the economic and financial hardships arising from the Second World War, they still resonate in their espousal of the benefits of education and engagement – a clarion call to students to seize the day. ●

Life and legacy

Phil Reed OBE (MA 1975) is Director of the Churchill War Rooms (CWR) in London, and has seen the museum more than double its visitor numbers over the past two decades.

'When I first started managing CWR in 1993, it attracted only 200,000 visitors a year – now it has an audience of some 500,000 from all over the world,' he says.

Reed was closely involved in the inception of the Churchill Museum, the CWR's permanent exhibition of the life and legacy of Churchill, which was opened by HM The Queen in 2005 to mark the 40th anniversary of Churchill's death.

Ten years on, Reed reflects on the museum's – and Churchill's – enduring popularity: 'The historic site in which Churchill met with his War Cabinet during air raids, and the Churchill Museum itself, continue to fascinate, inform and engage a growing number of people, many of whom know little or nothing about Churchill on arrival. While not in any way a "shrine", the CWR has been a focal point for the memorialisation of Sir Winston in the past year, ever careful to avoid falling into the trap of idolisation and iconoclasm.'

To find out more about the Churchill Museum, please visit iwm.org.uk/exhibitions/churchill-war-rooms/churchill-museum.

The great and the good

Distinguished honorary graduates during Churchill's tenure include:

1929 Philip Snowden, 1st Viscount Snowden, British politician and first Labour Chancellor of the Exchequer

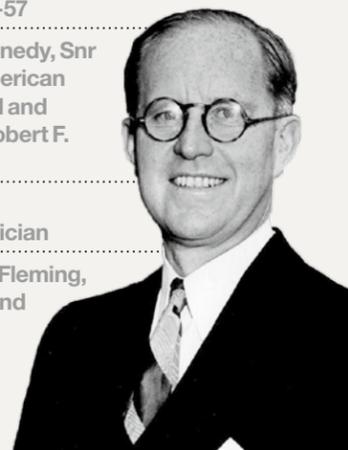
1931 Neville Chamberlain, British Conservative politician and Prime Minister from May 1937 to May 1940

1938 Robert Anthony Eden, 1st Earl of Avon, British Conservative politician and Prime Minister from 1955-57

1939 Joseph P. Kennedy, Snr (pictured right), American government official and father of John F., Robert F. and Ted Kennedy

1945 Ernest Bevin, British Labour politician

1949 Sir Alexander Fleming, Scottish scientist and Nobel Prize winner, most famous for his discovery of penicillin



Joseph P. Kennedy, Snr sourced from Wikimedia Commons

Earlier this year, Bristol was named the second best city in the UK for finding love at university*. Dr Will Costin (MEng 2009, PhD 2014) and Dr Catie Butler (PhD 2015) tied the knot this autumn, after meeting four years ago through the University's Explorers Club.

Alumni stories No mountain high enough



Catie (CB) When I started my PhD, the Explorers Club seemed the perfect way to get out and about. Everyone was so welcoming and they even introduced me to a key West Country staple: cider!

Will (WC) I joined the club to escape the city and enjoy the great outdoors, but who you go with on those trips makes all the difference. You certainly have plenty of time to get to know each other, whether you're walking, in a minibus or in a bunkhouse.

CB Will and I first met at Freshers' Fair, when I was Vice-President of the club. I found out he could drive, so made a concerted effort to get him to join. We always needed minibus drivers.

WC Catie was busy signing up new members so we only spoke briefly. My first impression was definitely one of efficiency.

CB We soon got to know each other better during long walks and weekly pub lunches with the club. Eventually, after one of those lunches,

Will finally got around to asking me out, claiming he'd liked me all along.

WC I decided quite early on that I wanted to marry Catie: it's rare to find someone who not only has the same interests as you but also the same sense of humour and outlook on life. She's intelligent, funny and independent but also has a softer side. I think my proposal was a surprise, but she may claim differently.

CB I did have a suspicion Will was going to propose. We were going to see the Northern Lights in my favourite country, Iceland, for our 18-month anniversary.

WC We spent the evening of Valentine's Day attempting to see the lights but in vain, so my initial plan was scuppered. Instead, I went for a traditional one-knee approach in front of Hallgrímskirkja in the central square in Reykjavik at midnight.

CB It was a good spot, and still private because it was late. The following evening, as if on cue, we did finally see the lights. We got married in October, and a few fellow Explorers came to our wedding. We went back to Iceland for our honeymoon – walking, of course. ●

Bristol's Explorers Club celebrates 70 years of hill-walking and hiking this year, and former members still meet regularly to enjoy walks and pubs around the UK. To find out more, please visit explorersclub.co.uk.

* Research conducted by the University of Surrey in August 2015



First 100 days

Feature

On Wednesday 2 September, **Professor Hugh Brady** took office as the University's 13th Vice-Chancellor and President. After serving ten years as President of University College Dublin (UCD), and enjoying a distinguished medical career that included almost a decade at the University of Toronto and Harvard Medical School, he spoke to *Nonesuch* about his experiences in Ireland and the US, and his plans for Bristol.

Why did you choose to move into higher education?

From early on in my career, even as a junior hospital doctor in Dublin, my work involved clinical practice, education and research. I loved the combination: very challenging, but exceptionally rewarding. Then, after almost a decade at Harvard Medical School, I was asked to serve in a variety of roles which, at least subliminally, aroused my interest in academic leadership.

The real game-changer was when I was appointed Professor of Medicine at UCD. Former UCD President, Art Cosgrove, gave me the opportunity to lead a number of very large institutional submissions to a major new research programme co-funded by the Irish Government and the Irish-American billionaire, Chuck Feeney, famously described by *TIME* as 'the man who gave it all away'. I realised I liked institution-building: bringing together academics from different disciplines to work on large thematic research questions.

How has your medical background shaped your leadership style?

As a clinician, you are trained to assimilate input from all directions, interpret that information and use it appropriately (albeit much faster than at a university). You have to enjoy working in multidisciplinary teams, frequently in high-pressure situations.

Modern universities are, to some extent, a scale-up of that environment – a cauldron of ideas to be harnessed. That said, the beauty of a university is in the diverse cultures it accommodates. The worlds of medicine, law and the arts are in many ways so different, yet they also have much to offer each other.

What is the single most important understanding you have brought to Bristol from UCD?

Perhaps patience! The temptation is to want to do everything quickly. But universities have survived for almost a millennium because they play a long-term game. A vice-chancellor is a custodian of an institution's history, while also being challenged to take the university through its next evolutionary step and steer it through increasingly choppy waters. What's exciting for me about Bristol is that the fundamentals are so strong: my job, at its heart, is about building on success.

What constitutes a first-class student experience?

Students expect to graduate with knowledge and skills that will serve them well throughout life. Top students understand that their experience will be so much richer if they are taught by those at the vanguard of their fields – Bristol consistently attracts superb students because its staff are among the most talented in the world. Our University's research-informed curriculum equips students with the strong academic fundamentals, critical thinking skills, flexibility and ambition to thrive in an environment where they can expect to change career direction, or even careers, many times during life.

We are also preparing our students for lives as responsible global citizens. We want them to have respect and empathy for people from different cultures, ethnicities and backgrounds, and to take care of their own health and the health of their environment. I care passionately about the internationalisation of the student experience and the quality of the

Professor Hugh Brady © Nick Smith



students' experience outside the classroom – the debates, the societies, and the sports clubs, where so much informal learning takes place, where opinions are shaped, and where lifelong friendships are forged.

What advice did you give your triplet sons about their choice of university?

Very little, other than to choose what really interested them. When I went to university, you tended to follow a particular pathway – medicine, law, engineering – and were expected to stay in that profession from the day you entered university until the day you retired. Now, appropriately, many programmes offer broader entry routes, with specialisation taking place later – often through a postgraduate degree. I reassured my boys that they have more choice and opportunities than ever before but urged them to challenge themselves and immerse themselves in their university experience. Did they listen to me? That's a different question.

How do you think public perceptions of higher education are changing?

Students today expect to be treated as partners in the education process. That expectation has been heightened by tuition fees, but it is also part of a wider social trend: patients want to be more involved in their clinical care; citizens are demanding more say in how their neighbourhoods are run. I welcome this trend. At Bristol, students are represented at all levels of University governance and are well-informed, insightful and challenging contributors.

What role do alumni play in your plans for Bristol?

Alumni are very important – a Bristol education should be a launch pad for a lifetime of engagement with the University.

So many alumni already contribute in different ways: as mentors, career advisers and volunteers, and by providing work placements and internships. Many have been extremely generous financially, for which we are very grateful. Philanthropy will increasingly be a critical determinant of Bristol's success, allowing us to support students, recruit world-class staff, and fund research in a way that would be impossible if we had to rely solely on fee income and government support.

Alumni are also role models and ambassadors: for them to endorse Bristol is very important. There is a great sense of pride among Bristol's staff and students. That pride is amplified even further among our alumni.

What is your vision for research at Bristol?

Bristol is already a world-class research institution: the results of the 2014 Research Excellence Framework placed Bristol unequivocally in the top five research universities in the UK. Professor Sir Eric Thomas (Hon LLD 2004) and his team deserve great credit for this achievement.

However, for Bristol to retain its excellent world ranking, it must continue to outperform many larger and better resourced institutions in Europe and the US, as well as compete with the emerging powerhouses in Asia. It will be challenging, but I am

'A BRISTOL EDUCATION SHOULD BE A LAUNCH PAD FOR A LIFETIME OF ENGAGEMENT WITH THE UNIVERSITY'

Overleaf Professor Hugh Brady Above Students in the Wills Memorial Library Right Bristol's Harbourside

confident that we can compete successfully in this deep-pockets, high-stakes environment if we play smart.

Why? Firstly, the University is deeply committed to excellence: it has always sought to recruit the very best scholars from around the world. Bristol's academic fundamentals are very sound. Secondly, Bristol has a fantastic spirit of collegiality – evident from the minute you walk onto campus – that will serve us well as we put together the multidisciplinary research programmes increasingly favoured by funding agencies. Thirdly, we are building a series of impressive partnerships with the city, industry and other top universities – locally, nationally and internationally. These partnerships are throwing up interesting research questions, creating test beds for ideas and technologies, and generating new streams of funding.

It is a competitive game, but I have no doubt that Bristol can maintain its position among the world's great universities.

Had you and your family spent much time in Bristol before moving here?

We spent many good weekends here even before I applied for this job: my sons are rugby players and played regularly for Blackrock College against schools in Bristol and Cardiff. In fact, when I announced my move, I think they were more excited than I was. They are at university in Dublin now, but will undoubtedly visit frequently.

What do you perceive to be the role of the University within the city?

Perhaps the biggest surprise for me has been the level of engagement that already

exists between the University and the city, and the enthusiasm on both sides to develop the relationship further. So many exciting questions – in health, transport, the environment, engineering and social policy – are generated in the city, and our staff are working with partners across the city to use Bristol as a test bed to explore solutions.

Our School of Policy Studies, for example, is working on issues such as housing, health inequality and child welfare, our population scientists are engaged in ground-breaking studies with the NHS; and our engineers are partnering with the city in a world-leading digital initiative, Bristol is Open. To be a world-class research university in one of Europe's great smart cities is a major selling point when recruiting students and staff, and affords us educational and research opportunities that many of our competitors don't have.

What will be your focus during your first year?

My first priority will be to get to know staff and students and engage the wider Bristol family, including alumni, in a conversation about the University's future. I hope alumni will participate in this process, as it will inform the road map for Bristol for the next five to ten years. It is an exciting prospect, and a challenge that I am looking forward to. ●

You will be sent details of how you can take part in this consultation by email in the New Year. If you are unsure whether we have your current email address, please update your information at bristol.ac.uk/alumni/mydetails or return the update form enclosed with your magazine.



Wills Memorial Library © Dan Rowley // Harbourside © Craig Auckland, fotohaus

Castaway choices

The five discs, one book and one luxury item Professor Brady would take to a desert island.

Getz/Gilberto Stan Getz and João Gilberto Wonderful to listen to by the fire on a winter's evening.

The Joshua Tree U2 The album that propelled four talented young men, of my vintage and from my home town, from local to global stars.

Bringing It All Back Home Various A stunning RTÉ/BBC collaboration on the history, influences and reach of Irish music.

Kind of Blue Miles Davis A timeless classic.

Porgy and Bess (Glyndebourne album) Gershwin One of my most memorable musical experiences was observing Sir Simon Rattle at an open rehearsal in Boston's Symphony Hall – mesmerising. My friend gave me this recording of Rattle directing Gershwin's great American classic some years later.

District and Circle Seamus Heaney One of the world's great poets, and a charming man whom I was privileged to know. Sadly missed.

1973 Barbarians-All Blacks rugby match on DVD I never tire of watching this exhilarating display of free-flowing rugby when there was still room on the team for small guys. I was a four-foot-something scrum-half at the time. Cliff Morgan's commentary was as captivating as the rugby.

Buying time: the fight against antibiotic resistance



Feature

Over the next 35 years, 300 million people are expected to die prematurely because of resistance to antibiotics*. So why aren't new drugs coming to market, and are there other, better ways to tackle infection? *Nonesuch* spoke to alumni and University researchers to find out.

By Catherine Treble

Imagine a world in which a scratched knee could leave you fighting for your life. Existing treatments for tuberculosis and pneumonia are no longer effective, and whole areas of modern medical practice, from routine operations to chemotherapy, carry the risk of fatal infection. Healthcare systems have buckled under rising mortality rates; the cost to the global economy is devastating.

Life in a 'post-antibiotic' era might sound like the stuff of science fiction, but according to health experts, that world could soon become reality unless we can turn the tide on the ever-growing threat of antimicrobial resistance (AMR).

'There are certainly mixed messages about how serious AMR is,' says Dr Matthew Avison (BSc 1994, PhD 1998), Senior Lecturer in Microbiology at the University of Bristol. 'We're not all going to die imminently, as some of the headlines suggest. But nor do we have years before things get critical. Yes, it's going to be a massive problem in 2050. But it's also a pretty big problem now.'

As Avison points out, the media tends to focus on scenarios in which we've lost the ability to treat all types of infection. But the real worry, Avison explains, is that: 'some infections are already untreatable with current drugs. Gram-negative bacteria like *E. coli*, for example, can be highly impermeable – it's very difficult to get drugs into them. Yet they're the bacteria that account for the highest proportion of hospital-acquired infections.'

Strength in numbers

Understanding how bacteria develop resistance is a case study in evolution by natural selection. Bacteria are among the fastest reproducing organisms in the world:

in the right conditions, some are able to duplicate every 20 minutes. They can also transfer genes horizontally – to surrounding bacteria as well as their offspring. So, only a few need to survive a treatment of antibiotics to pass that resistance on in a matter of hours, compared with the years it can take to bring an effective drug to market. And the more we use antibiotics, the more widespread resistance becomes.

Penicillin, tetracycline, methicillin – within a couple of years of the introduction of all these antibiotics, bacteria started to show signs of resistance. Now the pipeline of new drugs is effectively dry. Since the 1970s, only two new classes of antibiotics have been introduced, and neither is effective in treating gram-negative bacteria.

Dr David Brown (PhD 1975), whose 40-year career includes research roles at Zeneca, Pfizer, GlaxoSmithKline and Roche, explains: 'Many pharmaceutical companies have closed down their antibiotic research divisions because they don't make money. Antibiotics are only ever prescribed for a short course of treatment, while drugs for cancer, diabetes and heart disease can be prescribed for life. There's a high rate of failure in this field, and any new discoveries wouldn't be allowed broad marketing with high sales – they'd be held back as a "last line of defence" for the most lethal infections.'

Certainly, for the few companies that have kept up the search for new antibiotics, success continues to elude. Earlier this year, BBC's *Panorama* reported that GlaxoSmithKline spent \$1 billion on antibiotics research in the past decade – without bringing any new drugs to market. One drug came close, yet early signs of resistance appeared in the final stages of testing.

'Companies simply can't survive by pursuing that type of research,' says Brown.

In numbers

4

per cent of operations in the UK result in infection, the majority caused by *E. coli***

700,000

estimated number of people across the world who currently die each year from AMR*

10 million

estimated number of people across the world who will die each year from AMR in 2050 – more than currently die from cancer*

\$100 trillion

estimated cost to global economy by 2050*

* Source Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations, Review on Antimicrobial Resistance, chaired by Jim O'Neill, December 2014 ** Source Surveillance of Surgical Site Infections in NHS Hospitals in England 2013/14, Public Health England



‘Even if we could incentivise them and throw more money at the problem, I’m not convinced we’d get results this way. Commercial approaches have failed to deliver: we have to start thinking differently instead.’

Brown is now a trustee of Antibiotic Research UK, a charity set up last year to harness AMR expertise across the UK and help fund the discovery of new therapies.

‘One area we’re working on is salvaging some of the drugs we’ve already got. We’re combining existing drugs that show signs of antibiotic activity, even though they’re used to treat other conditions like cancer or heart disease, to create drugs known as antibiotic resistance breakers. Using existing drugs removes some of the commercial barriers we face, as they’ve already been proven to be safe for use. I’m confident that if we can find one or two combinations that work, they’d make a big contribution to filling the current gap of effective treatments.’

‘Risky’ science

Thinking differently is also what AMR researchers at Bristol are doing thanks to a new initiative, BristolBridge. Funded by the Engineering and Physical Sciences Research Council, the initiative will support a wide range of short-term research projects that combine expertise from different academic disciplines.

‘BristolBridge is about giving researchers a chance to test completely new ideas,’ explains Professor Adrian Mulholland (BSc 1990), Principal Investigator for BristolBridge. ‘We’re looking for zany ideas – ideas that are completely off the wall – to test in the lab. Ninety per cent of the projects might only create knowledge about what *won’t* work. But the other ten per cent might be completely transformative.’

Bristol has a long tradition of AMR research in the field of microbiology: the University’s School of Cellular and Molecular Medicine was set up in the 1960s by Professor Sir Mark Richmond after

‘EVEN LITTLE INTERVENTIONS COULD MAKE A HUGE DIFFERENCE’

Professor Adrian Mulholland (BSc 1990)

hospitals detected the first strains of drug-resistant bacteria. Now, BristolBridge hopes to build on that tradition by looking at AMR from less conventional angles, by involving engineers, mathematicians and physical scientists in the search for solutions. ‘As academics, we’re all guilty of pursuing “one-directional” science,’ admits Mulholland, ‘but you can get a really big pay-off by taking pre-existing knowledge from one field and using it in another context.’

Mulholland cites the recent discovery of a new antibacterial technology, Pertinax™, as a perfect example of this approach. Dr Michele Barbour (PhD 2003) originally developed Pertinax™ for use in the dental industry: one in seven fillings fail within seven years, usually because of bacterial infection. But now, through BristolBridge, Barbour is working with colleagues in engineering, mathematics and chemistry to explore whether Pertinax™ may also offer protection against infections acquired from hospital products, such as catheters, implants and wound dressings. ‘You probably wouldn’t expect academics based in dentistry and aerospace engineering to come up with a wound dressing,’ says Mulholland.

As well as bringing together academics within the University, BristolBridge also aims to forge links with other research institutions and industry partners to explore new lines of enquiry. ‘One of the joys of science is collaborating,’ says Mulholland. ‘Nobody in the world knows the best way to tackle AMR at the moment. There’s been a huge focus on new drugs, but they’re not the only answer. We need a much broader approach: effective diagnostic tools, improved wound dressings, and a better understanding of how diseases interact and spread. Even little interventions, like changing the way a GP talks to patients, could make a huge difference.’

Doctor’s orders

The role of GPs in the spread of AMR has certainly come under increased scrutiny in recent months, as have practices within the farming industry, which accounts for 70 per cent of antibiotic usage in the UK. Patients need to take responsibility too: in most cases, antibiotics are wholly ineffective in treating colds and coughs, and finishing a course of drugs too early also increases the risk of bacteria developing and spreading resistance.

‘Slowing the rise of resistance will be almost as good as finding a new drug,’ explains Avison, who is also Impact

Facilitator for BristolBridge. ‘It’s important that we work with clinicians: they know what the problems are now. But we also need to understand what impact changing current behaviour and practice could have in the future.’

Through BristolBridge, Avison, Mulholland and others hope to harness the power of Bristol’s high-performance computer, BlueCrystal, to fill that knowledge gap, quickly. Earlier this year, as part of a multinational study, a team led by Dr David Matthews, Senior Lecturer in Virology, used BlueCrystal to examine both how the Ebola virus evolved and how effective treatment and vaccination programmes would be at controlling the outbreak. ‘We can use computers to monitor how bacteria behave, and to predict how successful certain drugs would be against them,’ says Mulholland. ‘There’s also a huge amount of data still to be mined – data that we can use to model future scenarios and ultimately inform public health policy.’

‘To a certain extent, we have to keep running to stand still,’ adds Avison. ‘We have lost a lot of expertise in the field in recent decades, but we also now have new technologies at our disposal. I don’t think it will take a huge advance to turn the tide, but we have to accept that we might never win. Bacteria are adaptable. They’ve had billions of years to work on that.’ ●

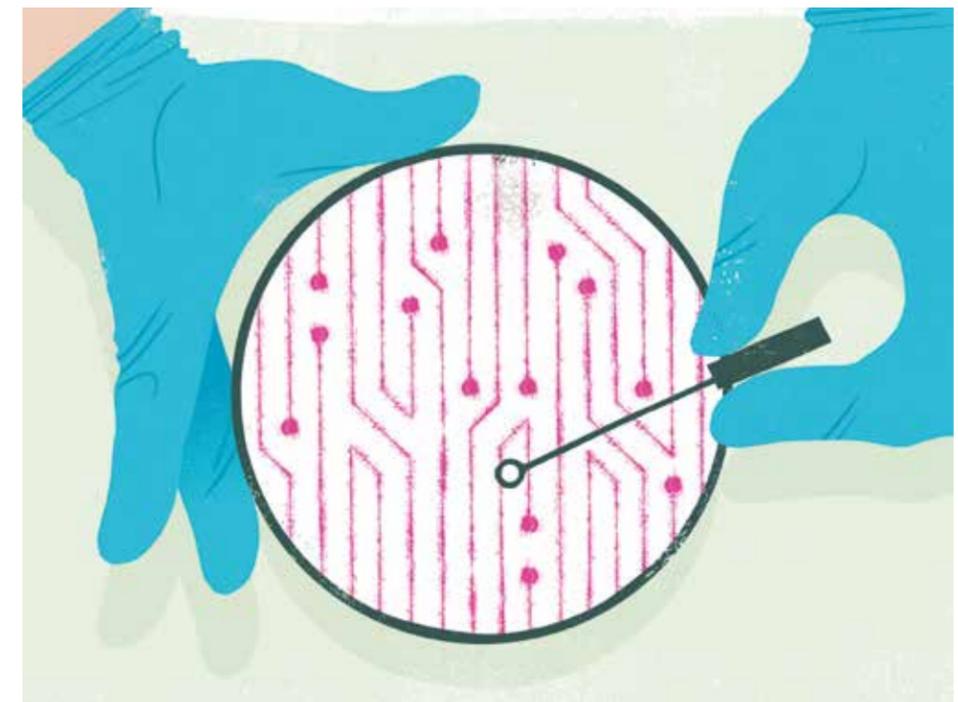
Seeking solutions

Experts across the University are contributing to the work of BristolBridge.

A team led by Professor Bo Su is looking at whether the structure of cicada wings could inspire ways to penetrate gram-negative bacteria. Cicadas use ‘nanospears’ to destroy bacteria through their physical, rather than their biological, structure.

Dr Andrew Collins and colleagues are exploring whether nanoparticles could hold the key to disease- and patient-specific diagnostic tests and treatments.

Dr Kristen Reyher is investigating what impact the use of antibiotics on farms has on bacteria that might transfer to people. Her team also hopes to establish whether reducing veterinary antibiotic prescriptions will help curb the rise of resistance.



Alumni in memoriam

The University extends its sincere condolences to the friends and families of those listed below for whom we have received notification of death.

Professor Sir Christopher Woodhead (BA 1968, Cert Ed 1969)
Educationist, died June 2015, aged 68

Professor Sir Christopher Woodhead, former English teacher and head of the Office for Standards in Education, was known for his controversial views on English education and, in particular, his fierce opposition to progressive educational theories. In 2006, he was diagnosed with degenerative motor neurone disease and went on to become patron of the campaign group, Dignity in Dying.

Dr Harry Beckhough
(née Beckhoff-Coburg)
(BA 1935) died March 2015, aged 101

Joyce Miller
(MB ChB 1940) died December 2014,
aged 95

Raymond Taylor
(Diploma 1942, BSc 1947) died 2015, aged 94

Evelyn Jackson
(Diploma 1945) died December 2014,
aged 90

William Lynham
(BSc 1947, Cert in Ed 1948) died December
2014, aged 88

Anthony Sage
(BSc 1947) died March 2012, aged 85

Jean Sage (née Wilding)
(BA 1947) died March 2015

Dr Suzanne Clarke
(MB ChB 1948, MD 1956) died February
2015, aged 90

Alicia Forty (née Gough)
(BSc 1948, Cert in Ed 1949) died April 2015,
aged 87

Lorna Mostyn (née Richards)
(BA 1948, Ad Cert in Ed 1949) died 2015,
aged 88

Joyce Pinton
(BA 1948, Cert in Ed 1949) died February
2015, aged 88

Albert Willey
(BSc 1948) died July 2013, aged 93

Dr Philip Bailey
(BSc 1949, PhD 1952) died January 2015,
aged 86

Raymond Hartnell
(BSc 1949) died April 2015, aged 86

Winifred Hearne (née Clutterbuck)
(BSc 1949) died January 2015

Vernon Rowland
(BSc 1949) died October 2013, aged 85

John Sanders
(LDS 1949) died May 2015, aged 88

Dr Ian Ashwell
(BA 1950, Cert in Ed 1951, MA 1956,
PhD 1964) died June 2015, aged 92

Alan Barker
(BSc 1950) died 2015, aged 93

Anthony Chivers
(LDS 1950, BDS 1951) died May 2015,
aged 86

Elizabeth Moore (née Musson)
(BSc 1950) died March 2015, aged 86

Paul Banham
(BA 1951, Cert in Ed 1952) died February
2015, aged 86

The Rev Ronald Foster
(BSc 1951) died September 2013, aged 87

Derrick Harvey
(BSc 1951) died January 2015, aged 85

The Rev Michael Whatmore
(BA 1951) died 2014, aged 84

Dennis Blandford
(BA 1952, Cert in Ed 1955) died June 2015,
aged 84

Sheila Cambridge (née Perkins)
(BSc 1952) died November 2014

David Mapstone
(BA 1952) died 2015, aged 85

Dr Philip Charsley
(BSc 1953, PhD 1957) died January 2015,
aged 83

Margaret Johnson (née Smith)
(BSc 1953) died May 2015, aged 85

Professor John Packham
(BSc 1953, Cert in Ed 1954, MSc 1965)
died 2015, aged 85

Geoffrey Whittaker
(BA 1953) died 2015, aged 83

Dr John Baker
(BA 1954) died April 2015, aged 81

Jeffery Flower
(BSc 1954) died February 2015, aged 84

Dr Rodney Hillier
(BSc 1954) died May 2015, aged 82

Dinah Johnson (née France)
(BSc 1954) died May 2015, aged 83

Margaret Moss (née Roberts)
(BSc 1954) died 2014, aged 81

Dr Bernard Palmer
(MB ChB 1954) died 2014, aged 87

Raymond Tolcher
(BSc 1954) died January 2015, aged 83

Dr Antoinette Wong (née Joseph)
(MB ChB 1954) died December 2014,
aged 85

Dr Geoffrey Allwood
(MB ChB 1955) died June 2015, aged 83

Ruth Eldridge (née Bunyan)
(BA 1955) died December 2014, aged 80

Michele McPhee (née Samuels)
(BA 1955) died June 2015, aged 82

Dr Joyce Moore
(MB ChB 1955) died 2015, aged 85

Audrey Newbould (née Rowe)
(BA 1955) died February 2015, aged 81

The Rev Canon Michael Saward
(BA 1955) died February 2015, aged 82

Walter Gray
(BA 1956) died July 2014, aged 84

Peter Whittam
(BSc 1956) died April 2015, aged 79

Patricia ApSimon (née Tangye)
(BSc 1957) died January 2015, aged 78

Dr Graham Curtis
(MB ChB 1957) died May 2015, aged 83

Joseph Griffiths
(BSc 1958) died March 2015, aged 83

Emeritus Professor George Mathison
(BSc 1958) died October 2014, aged 78

Dr Emanuel Olurin
(MB ChB 1958, ChM 1975) died March 2015,
aged 84

Christopher Rogers
(BA 1958) died April 2015, aged 78

Diana Curl (née Nichols)
(BA 1959) died January 2015, aged 77

Dr Valerie Hughes (née Robinson)
(MB ChB 1959) died February 2015, aged 81

Alan Gent
(BSc 1960) died January 2015, aged 77

Colin Glass
(BSc 1960) died April 2015, aged 78

Donald Hill
(LDS 1960) died 2015, aged 87

David Edwards
(BSc 1961) died July 2015, aged 75

Professor Perihan Tolun
(BSc 1961, PhD 1966) died May 2013,
aged 79

Dr Leslie Whalley
(BSc 1961, PhD 1965) died June 2015,
aged 74

Rosemary Gray (née Sadler)
(BA 1962) died April 2015, aged 73

Robert Kinsella
(BA 1962) died January 2015, aged 74

Robert Melling
(BSc 1962) died April 2015, aged 76

Dr Lars Moe
(MB ChB 1962) died April 2015, aged 82

Dr Gillian Stribley (née Prince)
(BSc 1962) died January 2015, aged 73

Dr Lotfollah Ziaee
(Diploma 1962) died July 2015, aged 88

Graeme Diprose
(BSc 1963) died February 2015, aged 72

Mahmoud Osman
(BA 1963) died November 2014, aged 75

Mary Moring
(BSc 1964) died May 2015, aged 72

Richard Gorham
(BDS 1965) died 2015, aged 70

Dr Alban Barros D'Sa
(MB ChB 1967) died January 2015, aged 77

The Rev Ian Butler
(BA 1967) died October 2014, aged 74

Susan Rothera (née Jenkins)
(BA 1967) died March 2015, aged 68

Dr John Tyler
(MSc 1968, PhD 1973) died March 2015,
aged 84

Roland Ellmer
(BSc 1970) died March 2015, aged 65

Stephen Franklin
(BSc 1973) died 2015, aged 64

Loraine Knowles
(BA 1974) died January 2015, aged 62

Miranda Stonor (née Harvey)
(BA 1976) died 2015, aged 62

Barry Gidden
(BSc 1977) died February 2015, aged 58

Dr Anil Lakhani
(MB ChB 1977) died December 2014,
aged 63

Linda Baynham
(BA 1978) died 2015, aged 58

Anthony Ralphs
(BSc 1979) died 2015, aged 57

Colin Sauer
(Hon MMus 1979) died January 2015

John Prentice
(BSc 1980) died January 2014, aged 56

Paul Salt
(BSc 1985) died February 2015, aged 51

Christopher Williams
(PhD 1985) died 2015, aged 64

Simon Lewis
(BDS 1987) died February 2015, aged 49

Peter Stephens
(Diploma 1989) died 2014, aged 69

Matthew Lynch
(BA 1993) died January 2015, aged 45

Dr Daniel Webster
(BSc 1994, MB ChB 1997) died 2015,
aged 43

John Arkwright
(MSc 1995) died September 2014,
aged 81

Peter Harris
(Hon MA 1996) died December 2014

Stefan Starkie
(BSc 2000) died December 2014,
aged 36

Joseph McClintock
(BSc 2002) died May 2015, aged 34

Philippa Tatham
(BA 2004) died March 2015, aged 33

Pamela Bird (née Cobb), former staff
member, died May 2015, aged 87

Lin Hall, former staff member, died April
2015, aged 63

Tracey Hamblin, former staff member,
died April 2015, aged 54

Dr Christopher Holmes, former staff
member, died July 2015, aged 62

**Emeritus Professor William Driver
Howarth**, former staff member, died
July 2015, aged 93

Professor Spencer Millham, former
staff member and member of Court,
died June 2015

Please email any notifications for alumni in
memoriam to alumni@bristol.ac.uk.

Calendar November 2015 to July 2016

Make sure you're invited to relevant events in your area by updating your details at bristol.ac.uk/alumni/mydetails.



November

Saturday 14 November
**Officer Training Corps sixth
annual dinner** // Bristol

Wednesday 25 November
**Bristol Talks: European Green
Capital 2015 panel discussion**
// London

Thursday 26 November
**Alumni Association Student
Awards and reception** // Bristol

December

Saturday 9 December
**Bristol Branch: Behind the
scenes at the BBC** // Bristol

Monday 14 December
London Branch carol service
// London

February

Saturday 6 February
**Wills Hall Association annual
reception** // Bristol

May

Wednesday 4 May
**Annual student, staff and alumni
golf challenge** // Bristol

Wednesday 18 May
Charter Day (invitation only)
// Bristol

July

Friday 8 to Sunday 10 July 2016
**Best of Bristol Alumni Weekend
2016** // Bristol

Catch up with old friends, reminisce about your University years and rediscover the beautiful city of Bristol. If you would like to gather a group of friends together for the weekend, please contact alumni-events@bristol.ac.uk as we can help put you in contact with people with whom you may have lost touch.

Get involved

Are you passionate about Bristol's future? Do you have ideas about how to support your alumni community and help fellow graduates get involved with the University?

We're looking for enthusiastic and committed volunteers to join the University's statutory and advisory bodies in a variety of roles on the Convocation and Alumni Association Committee and Court.

To find out about these roles, and apply online, please visit bristol.ac.uk/alumni/elections. Applications close on Thursday 19 May 2016.

Voting will open in June 2016 and close on Saturday 9 July 2016. If you would like a postal ballot, please contact the Development and Alumni Relations team on +44 (0)117 394 1051 or alumni@bristol.ac.uk.



Everyone can leave a legacy

**Please consider leaving
a gift to Bristol in your Will.**

Bristol CardioVascular is one of the top academic cardiac surgery units in the UK for heart research. Your gift will help revolutionise how we diagnose and treat heart conditions in children and adults, giving hope to future patients and their families.

Contact:

Ella Searle (MA 2002), Planned Giving Manager, University of Bristol, Senate House, Tyndall Avenue, Bristol BS8 1TH

T: +44 (0)117 394 1045 **E:** ella.searle@bristol.ac.uk