25 THINGS WE LOVE ABOUT CARDIFF UNIVERSITY

Inside

The Hubble of the mind
A new brain imaging research centre to study mental illness is opened by Her Majesty the Queen

Examined lives
Teaching Welsh in Thailand, keeping easyJet flying high and cooking for an Olympic champion

Cardiff strikes gold
Regius Professor Graham Hutchings on his eureka moment and using gold to change the way we live
The scanner is located in Cardiff University’s Brain Research Imaging Centre (CUBRIC) and is the only machine of its kind in Europe. Cardiff researchers are using it to better understand mental illness.

The 3T ‘Connectom’ MRI scanner produces uniquely visualised images of connections in the brain.

This image shows the first brain scan provided by the Connectom—a view of the brain of the Centre’s director Professor Derek Jones.
ALUMNUS CO-FOUNDS BIOTECH COMPANY

ALUMNI
Cardiff University graduate Dr James Hindley (PhD 2011), along with former University Research Fellow Dr Sivasankar Baalasubramanian, have launched a new biotech company in India.

Dr Hindley is executive director of Indoor Biotechnologies, an innovative allergen testing business based at Cardiff University’s Medicentre, providing products which identify and measure allergens. The new Indian company is a sister company of Indoor, and comes in response to indications that an estimated 350 million people in India suffer from allergy.

He said: “The essence of our business is allergen detection. We aim to provide quicker and better diagnosis, treatment and management of common allergies.

“We are really excited to now have a permanent presence in the Asian market – it’s a part of the world we have always had in our sights.”

To learn more about the company, visit hindia.com

BEE LANGUAGE

RESEARCH
A team from Cardiff University is looking to discover whether Welsh bees have regional accents.

Cardiff scientists are asking thousands of beekeepers across Wales to provide them with audio recordings of their hives. Bees create buzzing sounds by vibrating their wings at certain pitches, indicating what might be happening inside a hive. Cardiff researchers want to see if these noises are different depending on their regional location.

Les Bailie, Professor of Microbiology at Cardiff University, said: “We already know that Africanised bees make a different sound to honeybees, and we currently have Italian bees on the roof of the University, so they may be making a different noise to other bees in Wales.”

Cardiff University is transforming itself into a bee-friendly campus, with a beehive on the pharmacy building roof allowing Cardiff scientists to research the antibiotic properties of honey. Pollinator spaces have also been created around the Students’ Union and on the roof of St David’s shopping centre.

ALUMNI MAKE UP ONE IN FIVE ON WELSH BUSINESS LIST

ACHIEVEMENT
Cardiff graduates have once again featured strongly in the Western Mail’s annual ‘35 Under 35’ list of prominent young businesspeople born, educated or professionally based in Wales.

The University has 15 alumni from the world of business across the male and female lists.

Amongst those representing the University were Working World co-owner Caroline Holmes (BA 2004), recently appointed editor of WalesOnline Paul Rowland (PGdip 2003), and Sony UK engineer Jessica Leigh Jones (BSc 2015).

#TEAMCARDIFF RUNNING FOR RESEARCH

COMMUNITY FUNDRAISING
Runners at the 2016 Cardiff University/Cardiff Half Marathon have raised more than £31,000 for Cardiff University’s world-leading research into cancer, dementia and mental health.

200 participants took on the iconic 13.1 mile course under the #TeamCardiff banner, donning special red shirts to signify their support of the causes.

The race, of which the University is the title partner, took place six months after the Welsh capital played host to the IAAF/ Cardiff University World Half Marathon Championships, featuring the likes of quadruple Olympic gold medalist Mo Farah.

Cardiff University is now accepting expressions of interest for the 2017 Cardiff University/Cardiff Half Marathon, which takes place on 1 October 2017.

To register your interest, visit cardiff.ac.uk/cardiff-half

COLLABORATING WITH CHINA

INTERNATIONAL
Cardiff University will soon be welcoming students from China Medical University (CMU) to take part in MA programmes not currently available in China.

The new agreement, signed by Cardiff University Deputy Vice Chancellor Professor Elisabeth Treasure and CMU President Deliang Wen, enables CMU postgraduate students to study one year courses in tissue engineering and oral biology at Cardiff’s School of Dentistry.

This further reinforces the University’s long-standing relationship with China. Cardiff has 47 formal academic links and strategic partnerships currently in place with universities across the country, and the number of outbound Cardiff students to China is also rising.

DETECTING DIABETES

RESEARCH
Cardiff scientists are developing an early warning biosensor for Type 2 diabetes, providing people with a crucial time period in which to make lifestyle and diet changes that could prevent or delay onset of the disease.

Teams from Cardiff and Nottingham Trent University hope that this new diagnostic system will help reduce mortality and morbidity linked to Type 2 diabetes, as well as ease the strain on the NHS.

Professor Ian Weeks (BSc 1976, PhD 1980, DSc 2009) from Cardiff’s School of Medicine said: “There are many new biomarkers of various diseases being discovered as a result of ongoing research, but the challenge is the development of methods to allow them to be easily and accurately measured.

“In addition to diagnosing disease these are particularly important for prediction and prognosis of disease, as well as in ‘precision medicine’ which more accurately informs the best treatment for patients.”
PROGRESS IN ALZHEIMER'S PREDICTION

Cardiff University-led research has made significant steps towards developing a blood test to predict the onset of Alzheimer’s disease.

Cardiff researchers, working with King’s College London and the University of Oxford, took blood from 292 individuals with early signs of memory impairments and identified a set of biomarkers (indicators of disease) that predicted whether or not an individual would develop Alzheimer’s. After re-accessing these individuals one year on, three proteins were found in the blood of those who developed Alzheimer’s as showing significant differences to their equivalents in the blood of individuals who did not develop the disease.

Professor Paul Morgan (PhD 1984), Director of Cardiff’s Systems Immunity Research Institute, said: “Our research proves that it is possible to predict whether or not an individual with mild memory problems is likely to develop Alzheimer’s disease over the next few years. We hope to build on this in order to develop a simple blood test that can predict the likelihood of developing Alzheimer’s disease in older people with mild, possibly innocent, memory impairment.”

RESEARCH

PROFESSOR IS ROYAL SOCIETY SECRETARY

Professor Richard Catlow, of Cardiff’s School of Chemistry, has been appointed Foreign Secretary for the Royal Society, representing the British scientific community abroad and overseeing international business.

The post dates back to 1723, and is considered one of science’s highest international honours. Professor Catlow has experience of collaborating in Europe, the US, India, China, Cuba and Australia, and has particular interest in developing capacity building programmes in Africa.

He said: “I am very pleased and honoured to be taking on this new and challenging role. Science is an international endeavour and it is of key importance to maintain and extend the international collaborations and interactions of UK science and to ensure it plays its full role on the world stage.”

ACHIEVEMENT

PRESTIGIOUS FELLOWS

GRADUATION

A Welsh rugby international referee, an award-winning Welsh novelist, a critically acclaimed journalist and the British Army’s highest ranking transgender soldier were among those presented with Honorary Fellowships by Cardiff University at this year’s degree ceremonies.

Ten eminent figures across fields including nursing, research, arts, media and business were honoured this summer. Four of the recipients are Cardiff University alumni: Citibank executive Stephen Bird (MBA 1993), palliative care researcher Professor Julia Downing (BN 1974), social scientist Professor Emerita Dame Teresa Rees (PhD 1995) and Fundsmith founder Terry Smith MNZM (BA 1974).

Others to receive the honours included international rugby referee Nigel Owens (pictured left), award-winning novelist and Royal Society fellow Dr Sarah Waters, Wesley Clover CEO Professor Simon J Gibson, Imanova Chairman John Jeams, acclaimed German journalist Thomas Kielinger, Britain’s highest ranking transgender soldier Captain Hannah Wintourne, and Professor the Lord Darzi of Denham, Paul Hamlyn Chair of Surgery at Imperial College London.

NATIONAL AWARD FOR MIDWIFE

ACHIEVEMENT

Professor Billie Hunter, a Cardiff University midwife, has been awarded a Royal College of Midwives (RCM) Fellowship that recognises her outstanding contribution to midwifery and maternity services.

Professor Hunter is one of the first midwives to receive an RCM Fellowship, which aims to highlight individuals providing exceptional leadership and innovation in practice, education or research in midwifery.

She said: “I’d like to thank all colleagues and students who have supported the various projects that led to this accolade, and also to thank the many women and midwives who have contributed their insights. I hope I can use the Fellowship to carry on supporting midwives in their invaluable work improving care for women, babies and families.”

After having worked as a midwife since 1979, Professor Hunter moved into midwifery education in 1996. She lectures across the globe and is Director of the World Health Organisation Collaborating Centre for Midwifery in Europe.
BRAVO

Professor Karen Hollard FREng (BEng 1984, PhD 1987) has been named in the inaugural Top 50 Influential Women in Engineering List by the Women’s Engineering Society.

Catherine Howells (LLB 2006) has been selected by the Coleg Cymraeg Cenedlaethol to receive the prestigious new John Davies Prize, awarded for best undergraduate extended essay on Welsh History written in Welsh.

Professor Nicola Phillips (PhD 2005) has been appointed Chief of Mission for Commonwealth Games Wales, and will lead the Welsh team of athletes, coaches, managers and support staff to Gold Coast 2018.

Valerie le Vaillant (Bach 1986) has been named Chief Guide of Girlguiding, a UK-wide charity that aims to inspire and develop girls aged 5-25.

Claire Warras (BScEcon 1993, MBA 2003) is a KPMG partner and former Welsh international 400 metres runner, has been appointed to the Board of Commonwealth Games Wales.

University Pro Chancellor Richard Roberts CBE OBE (BSc 1966) has been awarded an Honorary Doctorate at the University of Wales Trinity St David in Lampeter.

Pianist and composer Gareth Glusbann Hughes (PhD 2016) was awarded the prestigious Musician’s Medal at this year’s National Eisteddfod.

Professor Laura McAllister CBE (PhD 1995, Hon 2013), one of Britain’s most prominent experts on devolution, is taking up a role at the University’s Wales Governance Centre.

Professor McAllister has published widely on Welsh politics during her academic career. She has been a member of the Richard Commission on the Powers and Electoral Arrangements for National Assembly for Wales, as well as the National Assembly Remuneration Board, examining pay and allowances for Welsh AMs.

She was also a football international, captaining the Wales national team and earning 24 caps, and previously served as the Chair of Sport Wales.

She said: “I am absolutely thrilled to be joining Cardiff University’s Wales Governance Centre, the hub of expertise and research on devolution and politics in Wales and beyond. The devolution journey in Wales is far from over, and I am looking forward to joining the team at the Centre and adding my new research.”

DEVOLELUTION EXPERT JOINS CARDIFF UNIVERSITY

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CARDIFF ANSWERS GOOGLE SEARCH RESEARCH

Experts from the Cardiff Catalysis Institute have presented their groundbreaking climate research to senior Google X staff at the web giant’s annual ‘Science Fair’ in California.

The team from the Research Institute, one of just 15 global entrants selected to participate, is developing a method of directly converting methane (natural gas) into methanol, with the potential impact for a simple natural gas conversion catalyst is immense,” said Professor Stuart Taylor, Deputy Director of the Cardiff Catalysis Institute.

“The world has vast quantities of methane, but much of it is being wasted in a damaging way, therefore the potential impact for a simple natural gas conversion catalyst is immense,” said Professor Stuart Taylor, Deputy Director of the Cardiff Catalysis Institute.

The project, called ‘The Holy Grail’ of chemical catalysis, was commissioned by Google and the Cardiff team is one of just 15 global entrants selected to participate. The team is working with Google’s main strategy, ‘Google X’, which helps shape the next generation of physicists. This has been a humbling and inspiring series to produce.”

SMALL SCREEN MEDICS MEDIA

A high profile documentary series on Welsh language broadcaster S4C has closely followed the experiences of 15 Cardiff University medical students over one year.

‘Doctoriald Yfory’ (Tomorrow’s Doctors) tracks the entire medical student journey at Cardiff University from Year 1 to graduation, featuring Welsh speaking students between 18-23 years old.

The show gained unadulterated access to surgeries, operating theatres and hospital wards, capturing the emotional, intellectual and physical challenges of training in medicine across a diverse range of Welsh community contexts.

Producer Llinos Griffin-Williams, of the BAFTA-winning Green Bay Media, said: “The series provides a unique behind-the-scenes portrayal of how a pioneering School of Medicine helps shape those young, inexperienced undergraduates into the doctors, surgeons and consultants of the future.

ESTATE ENTREPRENEURS ALUMNI

A property web platform developed by Cardiff graduates has been valued at £1.1m.

University Cribs is a website that curates a range of student properties from different letting agents onto one platform.

Jack Jenkins (BScEcon 2011), co-founder and director, said: “A recent survey by UCAS media shows that 56% of students would rather view potential properties online than in person, and University Cribs is simply stepping in to meet this demand for time-saving. It’s about time all properties most suitable for students are listed in the same place online.”

The site’s founders, all of whom are Cardiff alumni, moved onto this project from various management positions at Volt Marketing, a prominent student events company.
This summer, Her Majesty the Queen officially opened Cardiff University’s Brain Research Imaging Centre (CUBRIC) – a state-of-the-art facility housing some of the world’s most powerful and unique brain imaging technology.

A flagship piece of the Centre’s technology is the 3T Connectom MRI scanner, a machine so powerful that it has been equated to the Hubble Space Telescope. The Connectom is the only system of its kind in Europe and one of only two in the world: the other is located at Massachusetts General Hospital, USA.

Brain scanners have become crucial components in understanding and treating mental health conditions. Professor Jeremy Hall, Director of Cardiff’s Neuroscience & Mental Health Research Institute (NMHRI), explains: “One of the problems with studying brain disorders is that we don’t have direct access to the tissue. This makes it hard to study what’s going on in the brain with conditions such as Alzheimer’s disease or schizophrenia. One of the major ways we can get around this fundamental problem is if we harness the power of non-invasive imaging.”

Scanners such as the 3T Connectom MRI provide powerful non-invasive imaging techniques that are allowing Cardiff researchers to investigate the brain in greater detail. Ultimately, these scanners could lead to finding more effective treatments for diseases such as Alzheimer’s and schizophrenia.

Another powerful scanner available at Cardiff University is the 7 Tesla MRI, which examines brain structure in incredible detail. Cardiff researchers can now measure brain waves with EEG and MEG whilst the Connectom scanner looks at the connections in the brain in more detail than nearly all other centres in the world.

“These are unique facilities,” says Professor David Linden, whose neuroimaging work focuses on normal brain function and its disturbance in psychiatric and neurodegenerative disease. Professor Linden works with another high-powered scanner, the 7 Tesla MRI, which examines brain structure in incredible detail. Cardiff researchers can now measure brain waves with EEG and MEG whilst the Connectom scanner looks at the connections in the brain in more detail than nearly all other centres in the world.

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So it was, with three film crews watching and cameras rolling, that I laid on the table with a heady mix of excitement, pride and trepidation, preparing to be slid into the magnet. In the end, the experience was like any other scan. Lying in that warm, cozy environment with its rhythmic buzzing I quickly drifted off, only to be woken all too soon and pulled out of my safe cocoon, back into the fluorescent lit scan room.

It took several days to process the data, assisted by Siemens visualisation labs in Princeton, New Jersey. Nothing prepared us for the striking vision of what we saw: beautiful three-dimensional pictures of the fibres connecting my brain together. We were dumbstruck by how good the images looked – and are so excited about the opportunities it presents to peer into the brain, in health and disease, at a level of detail few have had the privilege to enjoy.
diagnostic and surrogate biomarkers – biological signals that indicate the presence of a disease or clinical outcome respectively – and the high sensitivity scanners are crucial to his research.

He explains: “In neurology there are many diagnostic biomarkers but there are very few surrogate markers (also called treatment outcome markers).”

“Imaging is a core technology in diagnosing neurological diseases. If more surrogate markers for disorders like Alzheimer’s can be found, this could lead to clinical drug trials becoming more accurate and efficient, because indications of treatment success could be detected faster via brain imaging.”

In time, Professor Linden hopes that the high sensitivity of the scanners could be utilised to demonstrate a treatment’s effectiveness within months, reducing the duration of clinical trials by a matter of years in some cases.

Scanners at the Centre are providing Cardiff researchers with more than just unprecedented access to the brain. Professor Sir Michael Owen, Director of Cardiff’s MRC Centre for Neuropsychiatric Genetics and Genomics, sees opportunities emerging in genetic studies. The Centre works to identify genes that predispose people to mental illness, and with the new facilities they can now explore in detail the way certain genes impact brain function.

He says: “We can now study people who we know to be at increased risk of developing psychiatric disorders, defined on the basis of their DNA, but who don’t necessarily have a disorder. These can be people who carry rare mutations. Studying those at risk offers a cleaner look at the brain mechanisms underlying psychiatric disorders. Being able to put the power of these genetically focussed experiments together with state-of-the-art imaging puts us in a very strong position.”

Professor Owen is seeking to utilise the Centre’s facilities to track patients with particular rare mutations that are known to cause schizophrenia, autism and other disorders. These people have already been scanned, the plan being to follow them up from childhood longitudinally over ten years or more, using further scanning to continually track brain development.

“There’s relatively little known even about how the brain changes normally, really,” explains Professor Owen. “I think this will be a big area in Cardiff over the next ten years or so, investigating normal brain development and then looking at how psychiatric disorders emerge from abnormalities there.”

It’s not just about what we can do with the brain scanners – it’s what we can also do in integrating them with other activities at Cardiff. For example, part of Professor Linden’s work utilises the scanners themselves as a form of mental health treatment. Neurofeedback entails brain training visualised by brain scanning, which enables people to self-regulate particular networks or areas of their brains. Using neurofeedback, Cardiff researchers have helped Parkinson’s sufferers improve motor control and are investigating whether alcohol dependent people can use this brain training to manage cravings.

The Centre’s placement within Cardiff’s dynamic neuroscience community is a particular source of excitement. “Cardiff is a fantastic neuroscience environment,” Professor Hall adds. “We have this great brain imaging centre sat in the middle of a site in the University which is already very good at all other aspects of brain science. We have the MRC Centre here, the Research Institute, Psychology and Bioscience schools.”

Professor Linden says: “Cardiff has always attracted international students from Europe, America and other countries, and this is expanding. The critical mass and sheer size of the Centre, with almost 200 imaging scientists, gives students access to any level of expertise they wish for. The way it’s set up here, with open plan offices and breakout spaces, means there’s lots of interaction. On a daily basis someone is setting up a journal club or seminar. It’s a creative and intellectual atmosphere.”

Whilst the Centre is generating intellectual buzz, the primary goal of seeking and developing new treatment remains core to its vision. A key area of specialisation in Cardiff is cellular therapy for Huntington’s disease, led by scientists from the Research Institute, which entails putting cells into the brain to replace damaged ones. This relies on advanced brain scanning in order to monitor the progress of the treatment, for which facilities available at the Centre will provide a huge boost.

“Really, what we want to do is take things through to treatment,” Professor Owen says. “That’s the hope. This is the reason for wanting to understand disease mechanisms, and it’s one of the things we hope to get from the Centre. The whole point of me spending the last 25 years looking for genes for psychiatric disorders is to find new treatments.”

“You can think in broad terms about tackling mental health but it’s never know what you’re going to discover, and that’s the excitement.”

Road-map at cardiff.ac.uk/cardiff-connect

Myles Hopper (BA 2010) is co-founder of Mindful Chef, a healthy food subscription company backed by sports stars Andy Murray and Victoria Pendleton.

I studied Ancient History at Cardiff University and absolutely loved it. Understanding and learning about different cultures and history is something that has always interested me. But what you study doesn’t have to define you. I’m now part of an exciting shift in how people are purchasing food online. The way you learn, research and work however will help you with whatever you choose to do in the future.

My favourite memory has to be playing in the 2008 Varsity rugby match. I don’t think we’d won for a few years and were the underdogs with Swansea playing in the league above us that year. Being a fresher I didn’t quite know what to expect but the atmosphere was amazing. I also got to play against my brother which makes it even more memorable.

Health and wellness is something I have always been really interested in. The summer after graduation I played the Rugby Sevens circuit in Spain before training to become a personal trainer. I spent the last six years working all over the world before settling in London.

The idea for Mindful Chef came after chatting to two old school friends. We all worked in London and had seen the rise of recipe boxes in the USA. It was still relatively new to the UK and we believed there was a much better and healthier way of doing it. We wanted a business that not only provided healthy, great tasting food, but was also conscious of its responsibility to source the highest quality food at a fair price for farmers. Our USP is we never include any refined carbohydrates or processed food, instead filling boxes with good for you ingredients.

The fact that we managed to raise £1m, 25% of our original crowdfunding target, makes us very proud of what we’ve done so far. It definitely took us by surprise. We knew we had a good idea but you’re never sure of how much support you have until the money is in the bank.

I make sure all our recipes are nutritionally sound and provide customers with the right number of calories and macronutrients. I also look after our partnerships and content strategy, working with companies that we believe fit in with the Mindful Chef ethos. We are located just outside central London so I can cycle to work through the park in ten minutes. We usually have breakfast as a group in the office before starting work, then heading to the gym or park to train.

Time management is something that is so important for me. I have to be involved in lots of other aspects of the company, and as many other start-ups can appreciate you constantly have to juggle lots of different things. Studying at Cardiff put me in good stead to be able to deal with all the daily matters that get thrown at us on a regular basis.

Unbeknown to us, Victoria Pendleton had been a customer for quite a while before we started crowdfunding. She herself is a vegan and her husband is gluten-free so we were the only recipe box in the UK that can cater for their family. She got in touch and wanted to invest in something she really believed in. Andy Murray, meanwhile, invested in several campaigns on the Seedrs platform and we were the one he was interested in.

The biggest challenge was telling people we actually existed. Food is shifting online but the idea of having your food delivered to your doorstep each week, and not physically buying it in person, is still relatively alien to some people. To spread the word we were grateful to be included in a great piece by the Independent on the Top Recipe Boxes in the UK, and we used digital marketing to reach a lot of people quickly.

Things are going to be really exciting over the next year. Following our campaign we have a lot of exciting projects coming up including events across the UK. So far we have shipped over 100,000 meals to people UK-wide, and we have our first recipe book launching in 2017 with a major publisher. I still can’t quite believe this is happening only one year after starting!

To learn more about Myles’ venture, visit mindfulchef.com
It’s official – according to the Times Higher Education Student Experience Survey 2016, Cardiff University’s SU is one of the best around. Home to over 240 sports clubs and student societies, a free employment service and, of course, the beloved Taf, the SU caters to every student’s needs across the board from studying to socialising, and has been doing so for decades.

Bursting with culture, cuisine, architecture, entertainment and history – from winding arcades to huge retail centres – Cardiff was ranked the third best capital city in Europe in 2016, alongside Copenhagen and Stockholm (Quality of Life in European Cities Survey, European Union).

Many a student’s finest or most ‘interesting’ university memories are born in halls.

Every residence has its quirks: the steep hill towards University Halls provides an ideal strength and conditioning exercise for a student cyclist, and the proximity of Talybont North to the UK’s largest Tesco Extra is not to be sniffed at. Senghenydd may be among the more cost-effective halls options, but its central location is second to none, and the diplomacy skills that emerge from using a shared bathroom may well last a lifetime.
A wealth of treasures lie just beyond Cardiff’s borders, a unique part of the world asking to be explored. A trip to Barry Island is a must, a destination for ‘Gavin & Stacey’ fans and beachgoers alike. The rugged Brecon Beacons offer incredible walks, views and outdoor pursuits; you may even spot a Cardiff researcher wandering the terrain, as part of the University’s strategic research partnership with the National Park.

The pubs of Cathays and beyond are landmarks in their own right. From the Woodville to the Heath, each has distinct character, serving punters seeking inexpensive pints in lively atmospheres or those wanting a more sophisticated drink. Then there’s the Taf, the SU pub that will not be beaten on price.

Cardiff’s Welsh culture is hugely prominent throughout the city, not least on every single road sign. The Welsh inscription on the front of the Wales Millennium Centre is world famous, and stands just a stone’s throw away from the Senedd.

From the internationally renowned Wales Millennium Centre on the waterfront, to the National Museum of Wales in Cathays Park and the 2000-year-old Cardiff Castle harking back to the city’s Roman inception, Cardiff is a city steeped in heritage and culture.

Cardiff University is in the top tier of Britain’s research universities and is a member of the prestigious Russell Group. The University is ranked second nationally for research impact, and in the top five for research excellence in the UK. We’ve been awarded five Queen’s Anniversary Prizes (which recognise world-class excellence in UK Higher Education), host state-of-the-art facilities and are home to a huge cohort of distinguished staff across every field, including two Nobel Prize winners and 12 Royal Society Fellows.

Following the culmination of a student’s entire programme of study, be it one, three, five or even seven years, there comes the satisfaction, relief, and joy of graduation. Robes at the ready, mortar boards in place – there’s nothing like being able to throw your hat up in the air outside City Hall, or at your home school building where it all began, and say that you made it.

Stepping into a university that provides innovative, exciting teaching across the disciplines, it’s hard not to feel the buzz. A Cardiff education is unique and personable; students are taught and mentored by tutors and lecturers who are world-leading experts. You might remember the likes of David English from Cardiff’s School of Journalism, Media and Cultural Studies, Professor Karen Holford FREng (BEng 1984, PhD 1987) from Cardiff’s School of Engineering and Dr Marcus Coffey of Cardiff’s School of Medicine.
BUTE PARK

A 130 ACRE BACK GARDEN

Did you know?

Despite being a growing European capital, Cardiff has more green space per person than any other UK core city.

Bute Park lies in the heart of Cardiff behind King Edward VII Avenue.

With the River Taff flowing alongside, Bute Park is the perfect mixture of tranquillity and wide open space, suitable for celebrating another Varsity victory, exploring the secret garden, or simply relaxing on a summer’s afternoon.

A city that loves running

In March this year, the streets of Cardiff played host for the first time to the World Half Marathon in partnership with Cardiff University. Twenty-five thousand runners, including now four times Olympic gold medallist Mo Farah, took part in the event which was supported by 200 staff, students and alumni. Cardiff boasts plenty of other events for all levels of runners – a weekly 5km parkrun takes place in Blackweir Fields, so there’s no excuse to disregard your running shoes.

An abundance of fast food

There’s an innate student sense that can swiftly identify a quality fast food outlet, of which Cardiff has plenty. Family Fish Bar, Mama’s Kebabs, Venus and T & A Kebabs are just some of the places serving students on a nightly basis. Some even draw celebrities, with rapper Snoop Dogg paying an impromptu visit to Albany Fish Bar in 2011, and T & A being used as a location in ‘Gavin and Stacey’.

Community action

Student volunteering is a way of life at Cardiff University with many ongoing student-led projects serving the community, such as the Grangegtown Smile Project, promoting friendly communities. Laugh Out Loud Fridays, a social club for young people with Down’s syndrome, or the Police Student Volunteering Scheme, which includes running a “Safety Bus” for people vulnerable to crime. Further afield the Phoenix Project is making a difference in Africa, working with the University of Namibia to embed quality education in focused projects like anaesthesia training and computer coding courses, enabling better health and less poverty.

Election frenzy

For one week in February, Cardiff University transforms into a political arena. Sabbatical Officer roles across all areas of the Students’ Union leadership are up for grabs, and it’s up to each candidate to convince the electorate, by whatever means, that they are best for the job. The Woodville pub crossroads are a particular stomping ground for candidates and canvassers, as are the SU steps, covered for one week only in an eclectic mix of painted banners and signs.

Distinctive Welsh weather

The meteorological station on the Bute Building roof uses an antique tipping bucket to measure rainfall, of which Cardiff admittedely has its fair share (Cardiff students are considered a key demographic in the city’s steady umbrella trade).

Alexandra Gardens in springtime

Nestled between the Main Building and King Edward VII Avenue, Alexandra Gardens is an idyllic escape from the bustle of university life, with cherry blossoms abounding in the spring and summer. It’s a stone’s throw away from the University’s Bute, Redwood and Glamorgan buildings, although throwing stones in the gardens is not strictly advised.

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Boating on Roath Lake

The 30 acre lake and its distinctive lighthouse, surrounded by picnic spots and complete with a shed full of pedal boats for hire, is a beautiful spot all year round and has been since its creation in 1894.

Rugby days

Rugby is part of the lifeblood of Cardiff; you can’t miss it. A festival atmosphere descends during the annual Six Nations tournament, as Wales’ visiting rivals take them on in their hometown. The pubs and streets fill up with fans, whilst the Principality Stadium (which you might remember as the Millennium Stadium) entertains an ever passionate capacity crowd.

Decades of celebration

Y Plas, Solus, Hanging Gardens, Terminal 396 – call it what you will. The SU nightclub has been through many names but the spirit of revelry remains the same. Recent refurbishment and expansion means it now hosts a new bar, mezzanine floor and lighting rig, giving Cardiff club nights a new sense of the spectacular. Not a surprise, then, that Cardiff University was voted joint first in 2016 for quality of social life (The Times).

Varsity showdown

Cardiff vs Swansea: a day of sporting competition that never disappoints. Over 30 competitive events topped off by the climactic rugby match in a rowdy Principality Stadium or Liberty Stadium (amongst others). Cardiff has won the Varsity Shield a record 15 years in a row – but we like Swansea really. Really!

Stunning views

Cardiff Bay at night, Bute Park in the autumn, Roath Lake at the height of summer, the Taff Trail, the Barrage, or an illuminated Wales Millennium Centre: the beauty of Cardiff is known well across Welsh borders. No wonder the city was listed as one of National Geographic’s top 10 summer destinations in 2011!
Cardiff University has a great reputation – it was the only university to offer a specific course in English and Communications. I was also attracted by the idea of living in a city small enough to get about on foot, but big enough as a capital to attract big-name bands and international sporting figures. Some of my fondest memories include watching rugby games, learning to scuba dive in the Olympic pool, and sea-diving on the West Wales coast. I worked on the University radio station as well as behind the Union bars, and met my husband at Cardiff!

My Cardiff degree opened up lots of options for different career paths. I didn’t know exactly what I wanted to do when I left Cardiff. I applied to join a graduate scheme at Millward Brown, a global research agency. I’ve since learnt that Cardiff was on a short-list of ‘red-brick’ universities that the company selected candidates from, so studying at Cardiff definitely opened doors.

There have been a few setbacks along the way, but in hindsight I was destined to end up in aviation. I didn’t quite get the A-level results I wanted, I wasn’t able to raise the funds for a Masters, and I was unsuccessful in a promotion I previously went for at easyJet. But I’ve discovered that every time, however tough it feels, there’s always something better round the corner.

This is my fifth role in nine years at easyJet. I’m always putting my hand up to get involved in things which has inevitably led to new roles and different opportunities. I believe it’s how you handle setbacks that makes you a stronger person – if you can emerge more determined, seeking better opportunities, this will carry you a long way.

There’s no such thing as an average day at easyJet – that’s what’s great about it. One day I might be having a conversation with the Prime Minister, the next day I’m number-crunching data trying to understand the impact of a terrorist attack on customer demand. I spend time in our 11 UK bases speaking to crew about operational challenges, talking to airports about route opportunities, looking at trade figures, writing business cases, and keeping an eye on our competition. Throw into the mix a meeting with an ambassador or political leader, speaking at industry conferences, or engaging with our Women’s Network.

We are in the midst of one of the most challenging aviation environments we’ve experienced. With French strikes and weather disruption, all airlines are finding it harder to operate schedules, and the geo-political climate is lowering customer demand and seeing people switch away from some destinations back to more traditional beach destinations in Spain and Portugal.

Brexit has the potential to significantly impact the aviation industry. We may be in a scenario where people need visas to travel to Europe, but at the moment it’s too early to tell. After the UK leaves the EU, easyJet simply wants to continue to fly our passengers and employ people across Europe as we do today, so we are lobbying the UK government and the EU to ensure the continuation of a fully liberal and deregulated aviation market.

I didn’t come from a privileged background. I was state-school educated and have worked my way up from a graduate role earning £15k to where I am today. I’ve found that telling my story in an open and honest way can inspire people, and I get a lot from it. I enjoy going into schools and talking about my journey, or at events like Management Today’s ‘Inspiring Women’ conference.

My best advice for women in business is to take more risks when applying for roles. It’s a known fact that many women only apply for roles when they feel 100% confident they could do every aspect of the job. Men are more likely to be risk takers, and apply for roles knowing they can only do about 50%, learning the rest on the way. Women need to have the courage to do the same, and not get demoralised by knock-backs.

**Sophie Dekkers**

easyJet’s UK Country Director Sophie Dekkers (BA 1999) is in charge of driving the company’s commercial and strategic ventures in the UK, and handles its 120 aircraft and £2.8bn revenue.

Cardiff University's Alumni Magazine: Autumn 2016
Cardiff strikes GOLD

A catalyst speeds up the rate of a chemical reaction, without itself being consumed. This was the moment I made the discovery of a lifetime: that gold indeed had these remarkable properties. I convinced my management at the time to re-plot different parameters to re-plot after realising that if I used very unreactive metal. However, if greywater (water from the bath or dishwasher, or from the roof etc.) could be collected and purified – using catalysis – then it can be easily separated into thousands of particles across an oxide support (e.g. carbon). This is perhaps the main area of catalysis in action. Here the general public is aware of catalysis at some point in their life.

Heterogeneous catalysis

Catalysis contributes to 35% of global GDP, with 80% of all manufactured goods requiring catalysis at some point in their production. Heterogeneous catalysis is a prevalent fertiliser, is made when hydrogen and nitrogen react using an iron catalyst. Without this fertiliser it’s estimated that around a third of the world’s population would not be able to survive. We were working on a research project on gold catalysts using their facilities. It was the first piece of laboratory research I did – I loved it and felt the group was the best place to continue onto my final year project. This project then became my PhD, during which time the Research Institute came into existence. After completing my PhD it felt natural to stay with the Research Institute and continue onto postdoctoral studies.

Ammonia

A catalyst is a solid catalyst with liquid or gas reactants. The catalyst is dispersed in thousands of particles across an oxide support (e.g. carbon). Reactants then flow over the catalyst and react to form products that can be easily separated. In our work with Jaguar Land Rover, for introducing innovative powertrain concepts and technologies into business – works towards ensuring that Jaguar Land Rover products meet very stringent exhaust emissions legislation across all markets. Catalysis is at the heart of delivering this and the two projects we have completed with the Research Institute focused on improving catalyst performance when the engine is cold (when the majority of pollutants are released) and discovering alternative, cheaper materials to replace the expensive precious metals currently being used by all vehicle manufacturers.

Looking back over the last ten years, it’s clear that had I not decided to work in the Research Institute I wouldn’t have had the opportunities that came my way, so I’m very glad I did!

Regius Professor Graham Hutchings
Director of Cardiff Catalysis Institute

A late stage of the discovery was to find a way to make the commercial plastic monomer (VCM), a major commodity chemical that is polymerised joined together to make the commercial plastic PVC. Originally this process used a very harmful mercury catalyst. The gases involved in this reaction volatilise the mercury, causing some of it to be carried out of the reactor with the products. It is estimated that for every 30m tonnes of PVC manufactured each year, nearly 2000 tonnes of mercury is released into the atmosphere. Replacing it with gold makes the process drastically less toxic, much cleaner, and even more efficient.

Johnson Matthey commercialised the gold catalyst in China, and it is set to become widely used within VCM manufacturing. A new branch has been built in Shanghai to specially produce gold catalysts for industry. It’s been extremely gratifying to see a true ‘eureka moment’ in 1982 progress into actual commercial reality, a success that really will change lives.

In the wake of this comes the rare honour of having a prestigious Regius Professorship awarded to Cardiff’s School of Chemistry on behalf of HRM the Queen, the first ever to be bestowed in Wales. Since the reign of Queen Victoria extremely rare, so it was incredibly special to be given the title of Regius Professor for the Queen’s 90th Birthday, a privilege that recognises not just my work but that of the Research Institute and Cardiff’s School of Chemistry. The critical mass of catalysis expertise within the Research Institute is immense, and still growing. We’ll be moving into fantastic new accommodation at the Cardiff Innovation Campus in two years’ time, boosting our already state-of-the-art facilities to new heights. What really excites me is the breadth of what we’re doing and the massive impact it’s having on society. Hopefully we’ll continue to lead the way, publishing really high-impact seminal papers whilst seeking their practical applications. It’s the thrill of finding things out, it’s just fantastic. It’s like a hobby for me.

A catalyst

...This was the moment I made the discovery of a lifetime: that gold would be a great catalyst. Never before had this been considered, as gold normally was seen as a very unreactive metal. However, after realising that if I used different parameters to re-plot (using graph paper no less) this paper’s data, which beforehand had, I felt, sadly been incorrectly interpreted, I was amazed to see a smooth curve appearing, showing that gold indeed had those remarkable properties. I convinced my management at the time to build a reactor to test this out, and sure enough we found that gold was the best catalyst there was.

Today the Research Institute is carrying this vision of discovery forwards, tackling and solving the most challenging problems in the field of catalysis and applying our findings to new, untapped areas in society. We work with nearly 20 different companies worldwide in fields as varied as energy, automation and food production, seeking to develop new and sustainable catalysis processes that positively impact modern living.

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Regius Professor Graham Hutchings
Director of Cardiff Catalysis Institute

David Sellick
(MChem 2007, PhD 2012)
Aftershoot Chemist in Combustion and Emissions at the Powertrain Research Department of Jaguar Land Rover

I first came into contact with the group that was to become the Cardiff Catalysis Institute (CCI) in 2006, during the third year of my MChem degree. We were working on a research project on gold catalysts using their facilities. It was the first piece of laboratory research I did – I loved it and felt the group was the best place to continue onto my final year project. This project then became my PhD, during which time the Research Institute came into existence. After completing my PhD it felt natural to stay with the Research Institute and continue onto postdoctoral studies.

It was during my postdoc that I began working with Jaguar Land Rover. Three Research Institute students were funded by the company, working on emissions aftertreatment projects, and it was then that I started to realise the importance role universities play in innovation and development within the automotive industry. Soon after, I moved to the Midlands to join the Powertrain Research department at Jaguar Land Rover.

But I wasn’t done with the Research Institute yet. The Powertrain department – responsible for introducing innovative powertrain concepts and technologies into business – works towards ensuring that Jaguar Land Rover products meet very stringent exhaust emissions legislation across all markets. Catalysis is at the heart of delivering this and the two projects we have completed with the Research Institute focused on improving catalyst performance when the engine is cold (when the majority of pollutants are released) and discovering alternative, cheaper materials to replace the expensive precious metals currently being used by all vehicle manufacturers.

Looking back over the last ten years, it’s clear that had I not decided to work in the Research Institute I wouldn’t have had the opportunities that came my way, so I’m very glad I did!
Penderfynais astdudio yng Nghymru i mwrifysgol Caerdydd i ddatblygu safbwynt gwahanol. Astudiodd fy athro yng Ngwlad Thai ei gradd Meistr yng Nghaerdydd 30 mlynydd yn ôl, ac argymhellodd Gaerdydd fel lle gwych i fod yn y ffordd. Roedd popeth yr oeddwn i wedi'i ddisgwyl yn y ddinas — siopa da, tafarndai lleol da, parciau naturiol a safleoedd diwylliannol, a'r cyfan dalai carrgen o'r Brifysgol. Roeddwn i eisiau dysgu Cymraeg er mwyn gallu darllen ac ynganu geiriau Cymraeg ac arwyddion stryd.

Ychydig wythnosau ar ôl i mi ddechrau fy nghwrs, roedd y Gymraeg yn dod yn eithaf hawdd i mi (dim ond fy marn i yw hyn, wrth gwrs). Ar ddiwedd fy nghwrs Mynediad 1, awgrymodd fy nhwtor y dylwn i fynd ar gwrs preswyl wythnos o hyd yng ngogledd Cymru er mwyn edrych yn agosach ar yr iaith Gymraeg a diwylliant Cymru. Newidiodd hyn fy agwedd at yr iaith, a goswiodd dau rosom ama i dros siósiu da eu Cymraeg, yr gynnal, dyarmau'r ffordd orau yn fy marn i i dddiwyllt eu Cymraeg ac integredio mewn gymdeithas Gymreig, ac yr an all yw'r brawddegau a'r cymysgiadau am ddiwylliant Cymru. Newidiodd hyn fy agwedd ar gyfer yr iaith Gymraeg. Roeddwn i eisiau dysgu a defnyddio'r iaith.

Roedd yn anrhydedd cael cynrychioli Prifysgol Caerdydd yn yr Eisteddfod Genedlaethol i lansio 'Cymraeg i Bawb', a chyflwyno araith (yn Gymraeg) am fy mhrofiad o ddysgu a defnyddio'r iaith o flaen Prif Weinidog Cymru.

Erbyn hyn, rwy’n arwain y gwaith o yr iaith Gymraeg i wyliu a defnyddio'r iaith Gymraeg a diwylliant Cymru cyn yddo’n ddwyn y ddwy goedion ddwy o’r sain ynaeth ynaeth. Rwy’n deddfu à’r iaith Gymraeg i’r iaith Thai a’r iaith Saesneg. Rwy’n cael myfyriw ymchwil ati’n cael myfyriw ymchwil am ynaeth Gymraeg a diwylliant Cymru. Rwy’n derfyrwch am ynaeth Gymraeg a diwylliant Cymru.

Elen Wyn Edwards

Alumni

To read this Examined Life profile of Welsh learner Supachai Chuenjitwongsa in English, visit cardiff.ac.uk/cardiff-connect
Alumni in memoriam

Cardiff University extends sincere condolences to the friends and families of those listed below for whom we have recently received notifications of death.

Alice Byron (BA 2016)
Died July 2016, aged 21

Alice Byron, a third-year English Literature undergraduate, bravely battled severe illness whilst continuing her academic programme. Having submitted her dissertation from hospital, she learnt of obtaining her degree in the days before her passing.

In addition to completing her studies, whilst simultaneously writing an uplifting and acclaimed blog about her experiences, Alice inspired hundreds of young people to support those with blood cancer by signing up to the stem cell donor register.

In memoriam

Alice L Byron (BA 2016)
Died July 2016, aged 21

Laura Tenison MBE (Hon 2015)
Home of Innovation Lecture
17 November 2016
Postgraduate Teaching Centre, Cardiff Business School

The founder and managing director of JoJo Maman Bébé, Laura Tenison MBE, will deliver the inaugural Home of Innovation Lecture at the Cardiff Business School, and will detail how businesses “can do well whilst also doing good.”

John Simpson CBE
The Hadyn Ellis Distinguished Lecture
24 November 2016
Julian Hodge Building, Cardiff University

This lecture series brings speakers of international distinction to Cardiff University to deliver public talks. This year’s event features John Simpson CBE, the BBC’s world affairs editor and witness to some of the defining stories of our age.

Christine M Davis (BA 1967)
Died February 2016

Richard Long (BScEcon 1972)
Died March 2016, aged 65

Timothy Beach (BArch 1984)
Died March 2016, aged 56

Due to an administrative error in the Spring 2016 edition of Cardiff Connect, the death of Jeremy Norgan (PhD 1982) was mistakenly announced, and former staff member Professor Chris McGuigan who sadly passed away in March was misidentified as a Cardiff alum. We apologise for any distress caused to friends and family.

If you would like to share the news of a Cardiff University graduate’s recent passing, please contact alumni@cardiff.ac.uk

If you would like guidance on organising your own alumni event, visit cardiff.ac.uk/alumni or email alumni@cardiff.ac.uk

Cardiff University hosts a packed calendar of events for students, staff and alumni as well as the general public. In addition to the highlights below, visit cardiff.ac.uk/events

Dr Gwyneth M Sims (MBBCh 1942)
Died May 2016, aged 98

Dr Mark A Savage (BA 1990)
Died March 2016, aged 59

Dafydd Downes (LLB 1992)
Died March 2016, aged 45

Niral B Rajpal (MBA 2001)
Died March 2016, aged 40

John Boile (Hon 2007)
Died September 2016, aged 84

Kebba Dibba (MA 2008)
Died March 2016, aged 50

Lauren E McQuaid (CertHE 2016)
Died April 2016, aged 21

Mark A Savage (BA 1990)
Died March 2016, aged 59

Margretta E Addis-Jones (Alumna)
Died March 2016

Professor Julian Wimpenny (Honorary Lecturer)
Former staff member
Died January 2016, aged 79

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Public Uni 14
10 February 2017
Cardiff

Cardiff Public Uni is an ongoing series of events where Cardiff University researchers present their work to the public in accessible, engaging 10-minute chunks, followed by discussion.

For further details, please email publicevents@cardiff.ac.uk

The Brain Games
21 February 2017
Cardiff

BCS/IET Turing Lecture 2017
The Turing Lecture is an annual event where speakers at the height of the technology sector discuss the profound impact of technology on today’s society.

In 2017, Dr Guruduth Banavar, IBM Vice-President of Cognitive Computing, will be presenting the Turing Lecture.

The Brain Games
March 2017
National Museum Wales
The Brain Games, aimed at Key Stage 2 pupils aged 8-12, are a set of fun interactive activities where primary school children can compete to win prizes, whilst learning about the range of brain-related research undertaken at Cardiff University.

Cardiff University/ Cardiff Half Marathon
1 October 2017

The second largest half marathon in the UK returns for another year of fundraising.

If you are interested in running for #TeamCardiff please visit cardiff.ac.uk/cardiff-half
Everyone can leave a legacy

Please consider leaving a gift to Cardiff University in your Will

A gift can make a lasting difference – inspiring students to enquire, innovate and bring real change to the world today and in the future

Please contact: Caroline Semmens, Cardiff University, Development and Alumni Relations Office, Deri House, 2-4 Park Grove, Cardiff CF10 3BN
t: +44 (0)29 2068 8310  e: semmensc@cardiff.ac.uk