

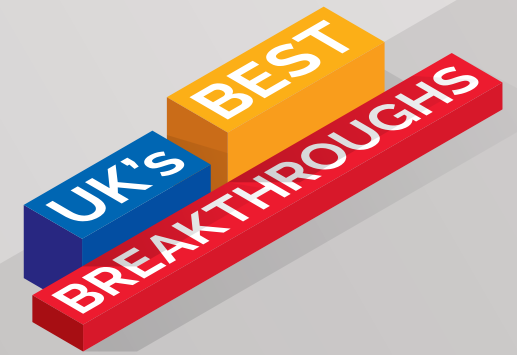
MADE ^{AT} UNI

THE 100+ WAYS
UNIVERSITIES
HAVE IMPROVED
EVERYDAY LIFE



Explore





The UK's Best Breakthroughs List is a celebration of the everyday impact that universities have on people, lives and communities across the UK.

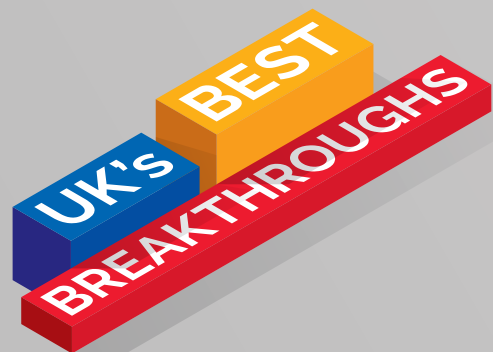
UK universities are at the forefront of some of the world's most important discoveries, innovations and social initiatives, including the creation of the internet, work tackling plastic pollution, ultrasound scans to check the health of unborn babies and the establishment of the Living Wage.

The list also highlights the less celebrated breakthroughs that transform lives, regardless of whether you've been to university or not. These include a specially-designed bra to help women undergoing radiotherapy; a toilet that flushes human

waste without the need for water; the development of a new scrum technique to make rugby safer; a sports initiative that aims to use football to resolve conflict in divided communities; – and even work to protect the quality of the chocolate we eat.

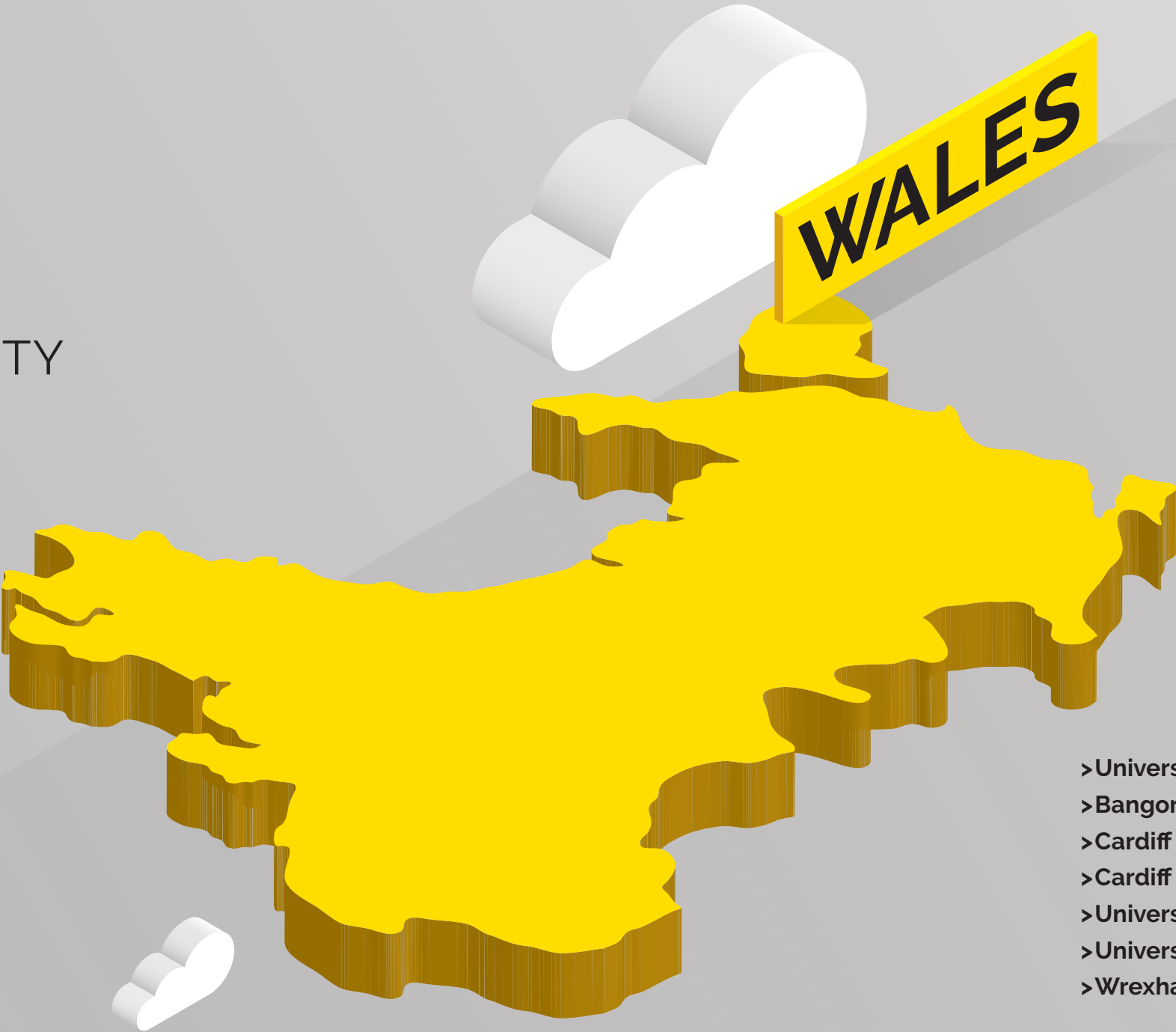
It was put together in partnership with universities across the UK. As part of the MadeAtUni campaign, every university in the country was invited to nominate the one thing from their institution which they believe has had the biggest impact on people, lives or communities.

Over 100 universities submitted a nomination and the entries cover health, technology, environment, family, community, and culture & sport.



DISCOVER WALES' UNIVERSITY
NOMINATIONS OR EXPLORE
ALL THE BREAKTHROUGHS
BY THEME

THEMES



- >University of Aberystwyth
- >Bangor University
- >Cardiff University
- >Cardiff Metropolitan University
- >University of Swansea
- >University of South Wales
- >Wrexham Glyndŵr University



ABERYSTWYTH UNIVERSITY

New varieties of grass to help the environment

There's science behind the green, green grass of home. Science has led to the production of new varieties of high sugar grasses for feeding livestock with huge environmental and economic benefits. Greenhouse gas emissions from livestock have been drastically reduced while at the same time the yield from livestock products has increased, so helping to feed the world's population.

The research has been carried out at the Institute of Biological, Environmental and Rural Sciences (IBERS) at Aberystwyth University, which celebrates a 100 years of plant breeding in 2019.

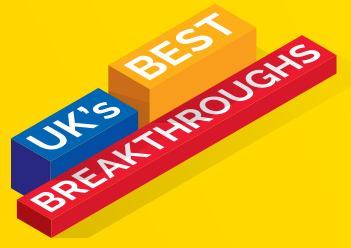
Today almost a third of the perennial ryegrass grown by UK farmers comes from seed developed by Aberystwyth University researchers, with varieties including AberMagic, AberDart and AberGreen also used internationally.

The development of these high sugar grasses is just one example of how the university's scientists are combining fundamental research on plant genetics with plant breeding techniques to develop new commercially viable plant varieties that are designed to tackle the challenges of food, water and energy security facing communities across the world.





PRIFYSGOL
BANGOR
UNIVERSITY



BANGOR UNIVERSITY

Helping farmers in Nepal and India

Research by Professor John Witcombe at Bangor University led to the creation of 10 new rice varieties which have brought huge benefits for farmers in Nepal and India and has helped improve the livelihoods of over five million households. These varieties of rice are superior in their good taste, drought tolerance and have high pest-resistance properties.

They are grown on at least 500,000 hectares and provide up to 40% yield advantage over the traditionally grown varieties. It is estimated that two of the rice varieties – known as Ashoka – alone are providing benefits of £17 million annually to the poorest farming households in India.



THEMES

ENVIRONMENT

CARDIFF UNIVERSITY

Community project to strengthen local ties

Cardiff University's award-winning Community Gateway is helping to make the diverse Cardiff district of Grangetown a better place to live and work.

Working closely with community partners Grangetown Community Action and Grange Pavilion Project, it is helping to strengthen relationships with Grangetown residents. Projects so far have included the award-winning Grangetown Youth Forum; a regular Grangetown Business Forum which led to the launch of Grangetown's first World Street Market, and a research project to identify the needs of the Somali communities in Grangetown.

Grangetown also has an annual mental health day event, arts therapy programmes, a citizen scientists programme and a safety week involving the emergency services.

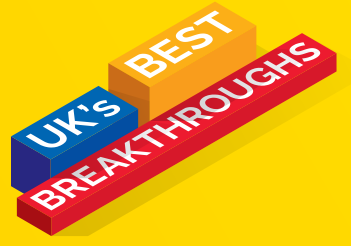
A major piece of work has been the renovation of a vacant bowls pavilion to trial community-led activities, including the launch of the locally-run community-focused Hideout Café, which hosts a monthly Culture Café aimed at bringing the communities of Grangetown closer together through discussion and debate over great coffee.





Cardiff
Metropolitan
University

Prifysgol
Metropolitan
Caerdydd



CARDIFF METROPOLITAN UNIVERSITY

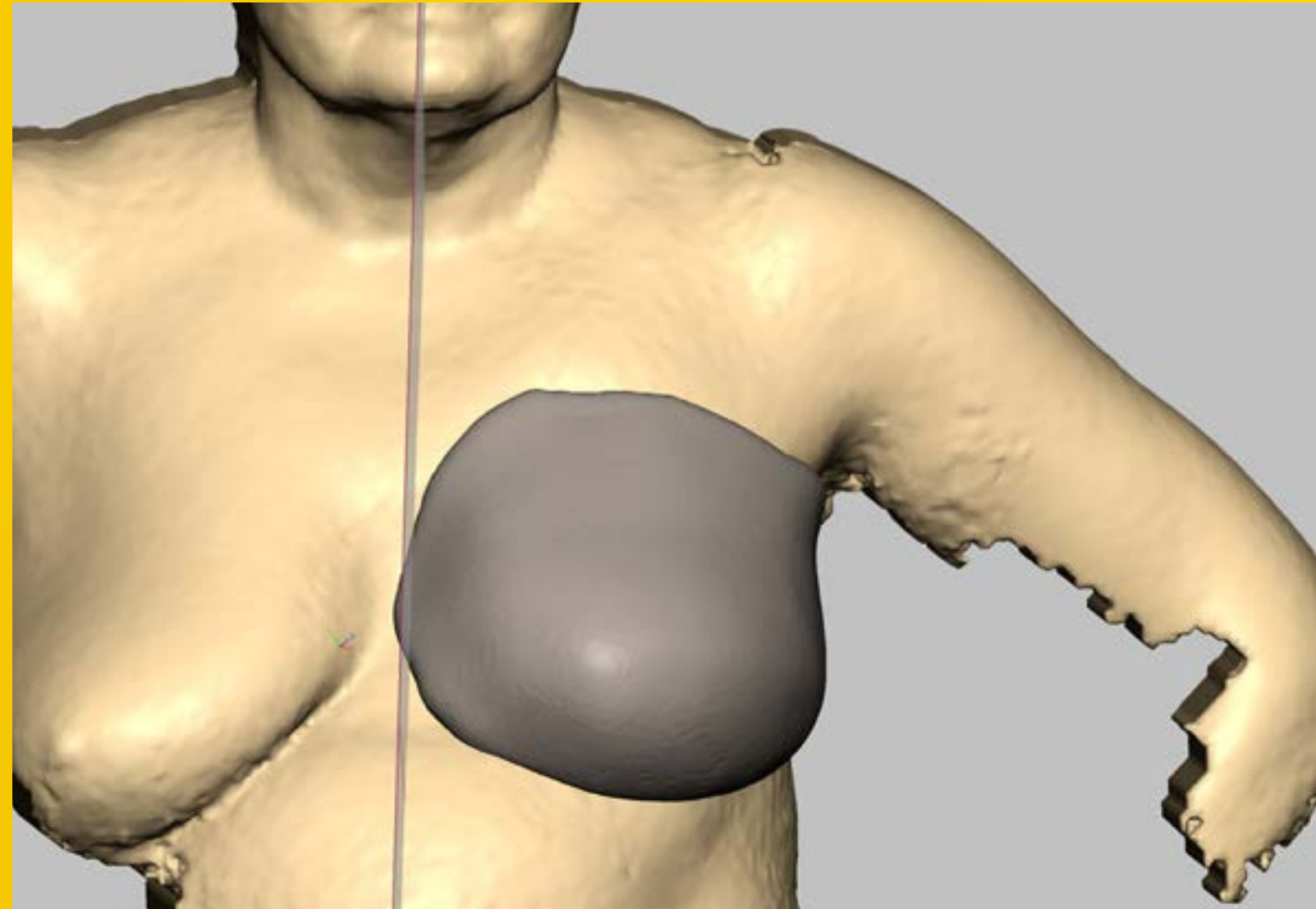
Breast prosthetics for breast cancer patients

Design researchers at Cardiff Metropolitan's International Centre for Design and Research (PDR) have worked with NHS clinicians to develop bespoke prosthetic breasts for women who have undergone a mastectomy.

The research project, which is informing the development of more realistic and better fitting breast prostheses, has developed from a partnership of more than 20 years, which has seen specialists from PDR work closely with medical professionals to offer a wide range of cutting-edge solutions to meet patient needs.

The research-led technique produces breast patterns and tools which in turn produce a silicon breast prosthesis bespoke to each patient, through the use of advanced digital design and manufacturing processes.

The project aims to reduce the psychological impact of post-surgical rehabilitation and therefore the emotional impact of breast cancer on patients and their families.



THEMES

HEALTH

UNIVERSITY OF SWANSEA

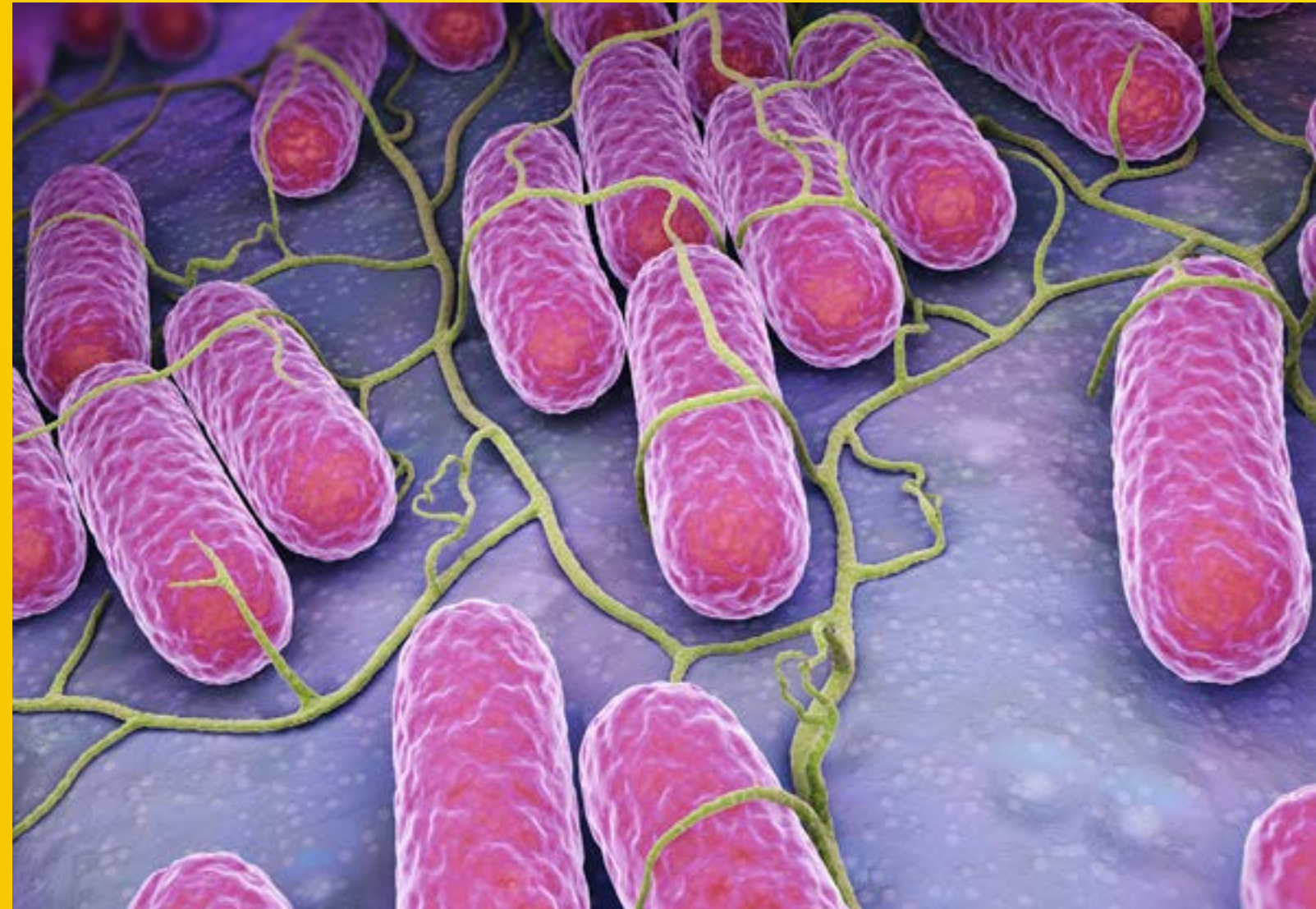
Using Salmonella to improve cancer treatment

Research at Swansea University Medical School has shown that Salmonella could be used to create better cancer treatments. Unlike chemotherapy and radiotherapy, these treatments would be non-toxic and would target only the tumour (leaving healthy tissue unaffected) and could require only one dose.

The technology at the heart of the approach is called RNAi, a natural process that cells use to turn down, or silence, the activity of specific genes.

Professor Paul Dyson, who is leading this work, has previously used this technology to develop a pesticide-free weapon against insects that cause sleeping sickness and damage crops.

In the next phase, the team will test whether bacterial strains can be combined to target the different cancer-causing genes ('oncogenes') in different types of cancer including breast cancer and colorectal cancer.



UNIVERSITY OF SOUTH WALES

Improving patient hydration in hospital

A group of adult nursing students at the University of South Wales (USW) have come up with a simple idea that could help hospital staff monitor a patient's fluid intake. They are proposing that hospitals introduce jugs with yellow lids, rather than the traditional blue lids, for patients who are either having their fluids restricted or monitored.

The lids, which cost as little as 70p each, would provide hospital staff on busy wards with an easy visual clue about which patients require careful monitoring.

One student nurse said:

"Although nursing staff make every effort to ensure patients are getting the correct fluids, we all agreed that it can be quite difficult to know which patients are having their fluids monitored on a ward.

Some patients, for example, may be on fluid restrictions following complications such as heart failure, whilst others might be being encouraged to drink more because they are dehydrated.

Yellow was chosen as it is considered a colour that is positive for people living with dementia as well as people with impaired vision."



WREXHAM GLYNDŴR UNIVERSITY

Personal academic tutors for each student

Wrexham Glyndŵr University is nationally recognised for its inclusion services which provides individualised learning support and academic opportunities to ensure that all students, regardless of their background and ability can thrive.

Their dedicated support for students includes a specialised Assistive Technology suite which provides specialist software and equipment and on-hand support and training for students.



UK's
BEST
BREAKTHROUGHS

HEALTH

TECHNOLOGY

FAMILY

ENVIRONMENT

COMMUNITY

CULTURE
& SPORT

CLICK TO EXPLORE BY
BREAKTHROUGH THEME





We live healthier, longer lives because of UK universities. Ultrasound scans can detect unhealthy babies in the womb; MRI scans can see inside our bodies; and portable defibrillators give us a second chance of life after a heart attack.

HEALTH



- > Anglia Ruskin University
- > University of Aberdeen
- > Queen's University Belfast
- > University of Birmingham
- > Cardiff Metropolitan University
- > Edinburgh Napier University
- > Queen Margaret University
- > University of Edinburgh
- > University of Exeter
- > University of Glasgow and The Glasgow School of Art
- > University of Huddersfield
- > Keele University
- > University of Kent
- > University of Lincoln
- > University of Liverpool
- > UCL
- > The London School of Hygiene & Tropical Medicine
- > St George's, University of London
- > University of West London
- > Middlesex University and University of Bedfordshire
- > Newcastle University
- > University of Northampton
- > Oxford University and The University of Sheffield
- > Scotland's Rural University
- > University of the West of Scotland
- > Sheffield Hallam University
- > University of Stirling
- > University of Swansea
- > University of South Wales
- > University of York

UK's
BEST
BREAKTHROUGHS

Every time you use your smartphone, turn on your flat screen television, surf the internet or switch on your computer, you are benefiting from the work of UK academics.

TECHNOLOGY

- > Abertay University
- > Aston University
- > Cambridge University
- > Cranfield University
- > University of Dundee
- > Durham University

- > University of Hertfordshire
- > University of Leicester
- > University of Manchester
- > University of Southampton
- > Staffordshire University
- > Strathclyde University

- > University of Surrey
- > Teesside University
- > Nottingham Trent University
- > University of Warwick
- > Wrexham Glyndŵr University

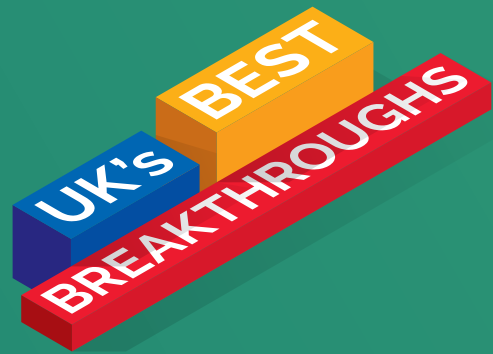


From reducing the amount of plastic in our oceans to developing new technology that turns urine into electricity, UK academics are helping to improve the environment, both in Britain and in the developing world.



- >University of Aberystwyth
- >University of St Andrews
- >University of East Anglia
- >Bangor University
- >University of the West of England, Bristol
- >University of Derby
- >University of Essex
- >University of Gloucestershire
- >University of Greenwich

- >University of Leeds
- >De Montfort University
- >University of East London
- >Northumbria University
- >University of Plymouth
- >University of Portsmouth
- >University of Reading
- >University of Salford
- >University of Winchester



Baby buggies for the visually impaired; singing workshops to help mothers with postnatal depression; and supporting male victims of domestic violence – families up and down the country benefit from the work of UK academics.

FAMILY



- >University of Bedfordshire
- >University of Bristol
- >University of Chichester
- >University of Cumbria
- >University of Hull
- >Imperial College London
- >Regent's University London
- >Royal College of Music
- >University of Central Lancashire
- >University of Sussex
- >Ulster University



Universities help to create fairer communities where everyone, regardless of their background, can benefit from education, employment and cultural opportunities.



- >The University of Bradford
- >University of Buckingham
- >Buckinghamshire New University
- >Canterbury Christ Church University
- >Cardiff University
- >University of Chester
- >Coventry University
- >Heriot-Watt University
- >Glasgow Caledonian University
- >Falmouth University
- >University of the Highlands and Islands
- >Royal Holloway, University of London
- >Leeds Beckett
- >Leeds Trinity
- >Liverpool John Moores University
- >University of Arts London
- >King's College London
- >Loughborough University
- >Manchester Metropolitan University
- >Norwich University of the Arts
- >The Open University
- >Queen Mary University of London
- >University of Roehampton
- >University of Suffolk
- >University of Sunderland
- >Wolverhampton University
- >University of Worcester
- >York St John University

UK's
BEST
BREAKTHROUGHS

UK universities have helped
to resolve conflict in divided
communities and transformed
the lives of young people
through the power of sport.

CULTURE & SPORT



- >Robert Gordon University
- >University of Bath
- >University of Brighton
- >Edge Hill University
- >Royal Central School of Speech and Drama
- >SOAS University of London
- >Solent University

MADE^{AT}UNI

Get in touch

If you have any questions about the campaign and how you can get involved, please contact:

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