

University of
South Wales
Prifysgol
De Cymru

A UNIVERSITY WITH
IMPACT

www.southwales.ac.uk

Welcome from the Vice-Chancellor

I am extremely proud of how we at USW are maximising positive impact for our partners and communities in this region of Wales and further afield.

As a university committed to, and with a significant record of, achievement in widening access to Higher Education, USW has long been rooted within its communities, making a major difference to the people who live and work within our hinterland and beyond. We must also not forget that the institution was founded by the local leaders of industry who identified a need to develop a skilled workforce capable of meeting the needs of the region at that time.

At USW, we continue this work. Not only are a great number of our students the first from their families to go to university, we are a major employer in the region where we are training the workforce of the future. Our student nurses, midwives, teachers, and police officers spend time on placement in our communities, working for the benefit of those communities, and in the majority of those cases returning to work in those communities when they graduate.

USW is committed to improving the future of the communities it serves by taking individual and collective action, including support for the Welsh Government's well-being goals.

Our collaborative projects are making a real impact across the region and beyond; from our campuses in Pontypridd, Newport and Cardiff, as well as from our partner organisations, we collectively are a force for positive change.

Professor Julie Lydon OBE
Vice-Chancellor



The Chancellor, The Rt Revd and Rt Hon Lord Williams of Oystermouth PC FBA FRSL and Vice-Chancellor, Professor Julie Lydon OBE

Robotics and Artificial Intelligence in care

Pepper, the University's very own semi-humanoid robot, is one of the world's first to communicate in Welsh, having been specially programmed by staff and students in the School of Engineering.

He is able to perform a vast range of tasks which could potentially benefit thousands of people across Wales and beyond. The University is currently in advanced discussion with Powys Teaching Health Board to deliver a pilot programme, which aims to enhance the living standards of elderly people in the most remote parts of the county.

In some rural areas of mid Wales, it could take up to 36 hours to alert authorities if a person had fallen ill, and potentially longer for the patient to receive medical aid. Using advanced robotics and Artificial Intelligence could reduce this waiting time to just a

few minutes by evaluating their quality of living, the type of care an individual needs and, crucially, providing assurance that the correct systems are in place to take care of them.

The University has also explored Pepper's potential to work with children with additional learning needs and dementia patients, simulating a caring role and being able to monitor their well-being and mental health.

Contact: **Dr Leshan Uggalla**
leshan.uggalla@southwales.ac.uk



Measuring the impact of social care

The University is leading a research project to study the impact of social care on people throughout Wales, and recommend changes to the way care and support is delivered.

Working in partnership with Interlink RCT, Measuring the Mountain published a unique report following its formation of a Citizens' Jury, which listened to experiences of people throughout Wales who are involved in social care.

Funded by Welsh Government, the project has collected almost 500 personal stories that reveal the complex, vulnerable, and important relationships people have when they are carers or need care and support.

The jurors explored the stories in order to understand the early impact of Social Services and Well-being (Wales) Act 2014, before making a series

of recommendations, outlining the need for straightforward, easy interactions with social care providers, the need to value and support carers, and the importance of collaboration at all levels of the sector.

The report's findings will help inform a three-year evaluation of the Act by a USW research team, which aims to understand exactly what is needed by those accessing social care and ensure that resources are focused in the most effective places.

Contact: **Dr Rachel Iredale**
rachel.iredale@southwales.ac.uk



Reducing emissions from steel manufacturing

The University's Sustainable Environment Research Centre (SERC) has worked with TATA Steel on the anaerobic treatment of blast furnace gas.

The aim of the project was to investigate how TATA could reduce the emissions from its steel manufacturing process.

As one of the largest steel producers in Europe, TATA makes almost five million tonnes of slab steel every year. This project evaluates the possibility of an industrial-scale plant such as TATA using a laboratory-scale model, with an environmentally-friendly bacterial process.

Using biorefining technology, the waste gases produced during this process are captured with an airlift reactor and converted into useful products, rather than allowing them to reach the atmosphere as potentially harmful greenhouse gases.

The reactor produces a minimum of 10 tonnes of acetic acid – commonly used in vinegar and perfume products – per hour, which prevents 4.35 tonnes per hour of carbon from being released into the air.

This method uses the bacteria present in waste water, which helps convert the hydrogen sulphide in the gas into elemental sulphur. This in turn means less damage to the metalwork used by TATA, while reducing the effect of hydrogen sulphide on the environment.

Contact: **Professor Richard Dinsdale**
richard.dinsdale@southwales.ac.uk

Breaking the cycle of homelessness and reoffending

Researchers at USW, in partnership with Shelter Cymru, were commissioned to evaluate the National Pathway for Homelessness Services to Children and Young People in the Secure Estate – commonly referred to as 'the Pathway'.

As many homeless young people enter the criminal justice system, and many in custody are homeless when they are released, the Pathway demonstrates the Welsh Government's commitment to ensure that housing need is addressed early and planned, with the aim of reducing homelessness upon release.

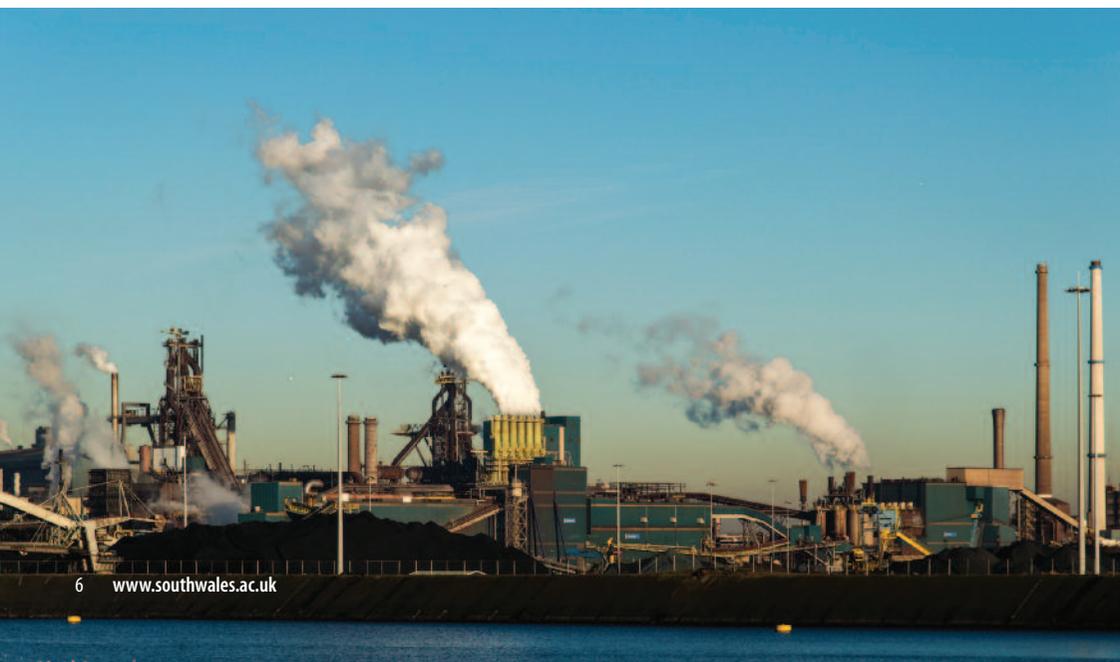
The evaluation considered how local authorities, Youth Offending Teams, secure establishments and other stakeholders from the third sector understand the Pathway, the challenges they have faced and the experiences of the young people who come into contact with the Pathway.

The report found that while there are low numbers of young people being released with housing issues

in Wales, some did not feel they were involved in decisions being made about their accommodation, and a small number did not know where they would live upon release.

Recommendations from this research include increased awareness of the Pathway, including clarification of organisations' responsibilities relating to housing young people, and an increased availability of supported accommodation that provides specialist help for young people with complex needs.

Contact: **Dr Harriet Pierpoint**
harriet.pierpoint@southwales.ac.uk



Making a positive difference to society

The University of South Wales has signed a strategic partnership with Amgueddfa Cymru – National Museum of Wales with the aim of making a positive difference to society and the lives of people across the region.

Both organisations signed a Memorandum of Understanding (MoU) to strengthen their collaboration and work towards their common goal of inspiring people’s strong sense of wellbeing and identity.

USW and Amgueddfa Cymru want to develop a sustainable, multi-disciplinary partnership to promote collaboration between the parties.

Under the terms of the MoU, both parties will commit to supporting the work of PhD students and new collaborative research projects; identifying opportunities for student work placements and staff secondments; site visits and field work with museums around Wales, and much more.

Collaborative projects are underway across all faculties of the University. These include working to identify the source of the stones used to build Stonehenge; helping to engage the public in declaring treasure found in Wales; retelling the connection between the Welsh textile industry and the African slave trade; and helping the museums to better understand their impact on people’s educational development, using new technology.

Contact: **Lucas Brown**
lucas.brown@southwales.ac.uk

Providing a boost to the creative industries

USW is working in partnership with Cardiff University and Cardiff Metropolitan University to deliver Clwstwr, an ambitious five-year programme which aims to boost the screen industries sector in South Wales.

The research and development project aims to offer funding opportunities to those working in the screen and news sectors, for developing ideas that could innovate their own organisations as well as the wider industry.

As Cardiff is widely recognised as one of the UK’s biggest media production centres outside London, Clwstwr aims to put innovation at the heart of the city and address some of the key challenges that the industry faces.

Clwstwr brings together all major Welsh broadcasters including BBC Cymru Wales, S4C, and ITV Wales with independent film and television

production companies, Wales’ national companies and creative organisations, creative coworking spaces, tech startups, strategic agencies including Arts Council of Wales, and local authorities including Cardiff Council, and Welsh Government.

Part of the Arts and Humanities Research Council (AHRC) Creative Clusters Programme, the Clwstwr team has invited businesses, organisations, and freelancers to get involved in a range of research and development events across the Cardiff City Region.

Contact: **Professor Ruth McElroy**
ruth.mcelroy@southwales.ac.uk



Helping prisoners readjust to community life

Dr Ross Hall, Armed Forces Champion for the University, has undertaken an innovative project with inmates at HMP Parc in Bridgend to analyse the perceived psychological strengths and weakness of prisoners.

After his analysis, Ross designed individual interventions to address areas of perceived weakness and develop perceived strengths. Once the prisoners felt comfortable, their families were introduced and the project group discussed how the prisoner could help their families with similar issues.

Prisoners noticed improvements in controlling their emotions when under pressure or stress – skills which would prove valuable in their re-adjustment to life outside of prison, to be able to integrate back into their community.

The families' perceptions of prisoners also changed, becoming more positive about their release and the

likelihood of not re-offending, while staff began to better understand them as individuals.

These positive results have helped to enhance staff perception of the prisoner, and could potentially contribute to changing attitudes towards inmates.

As part of the project, prisoners were also introduced to educational opportunities and in the future, they and their families will be encouraged to become role models and peer mentors for others.

Contact: **Dr Ross Hall**
ross.hall@southwales.ac.uk

Developing digital education across Wales

The University of South Wales, Welsh Government and global technology company Thales are working together to establish a £20m cyber centre which will sit at the heart of its Tech Valleys programme.

The National Digital Exploitation Centre (NDEC) – located in Blaenau Gwent and delivered by Thales in collaboration with USW – will be the first research and development facility of its kind in Wales, and will provide SMEs and microbusinesses a base to test and develop their digital concepts.

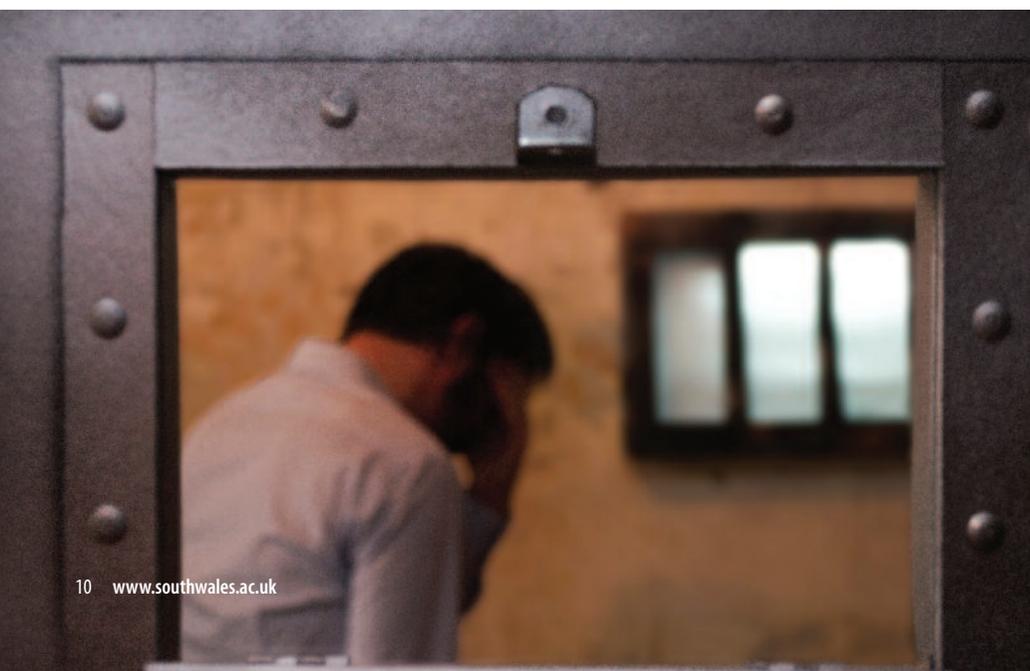
It will also provide a research lab in which multinationals can develop major technology, and will connect Wales to major tech centres across the globe.

Not only will the cyber centre help Wales to exploit the global opportunities of digital transformation, it

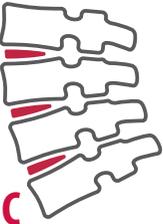
will also equip businesses with the skills and knowledge they need to win a greater share of large regional and national projects.

USW will run an Advanced Cyber Institute at the Centre that will provide a base for major, multi-million-pound, academic research, and will also operate a Digital Education Centre that will enable SMEs, schools and individuals develop the skills they need to protect themselves online.

Contact: **Clare Johnson**
clare.johnson@southwales.ac.uk



27,000
PATIENTS
TREATED AT OUR
CHIROPRACTIC
CLINIC EACH YEAR



USW THERAPY
WORKS WITH CHILDREN AT
70 SCHOOLS
ACROSS **NEWPORT**



MORE THAN
70,000
HOURS OF CPD
DELIVERED BY
COMMERCIAL &
CLIENT SERVICES

CENTRE FOR EXCELLENCE IN
MOBILE & EMERGING
TECHNOLOGIES
HAS SUPPORTED
120
COMPANIES
IN THE **PAST 5 YEARS**



8,200 PEOPLE IN THE LOCAL
COMMUNITY USE OUR
SPORT PARK EVERY MONTH

ORIEL Y BONT
HAS EXHIBITED
THE WORK OF
MORE THAN
300
LOCAL ARTISTS

