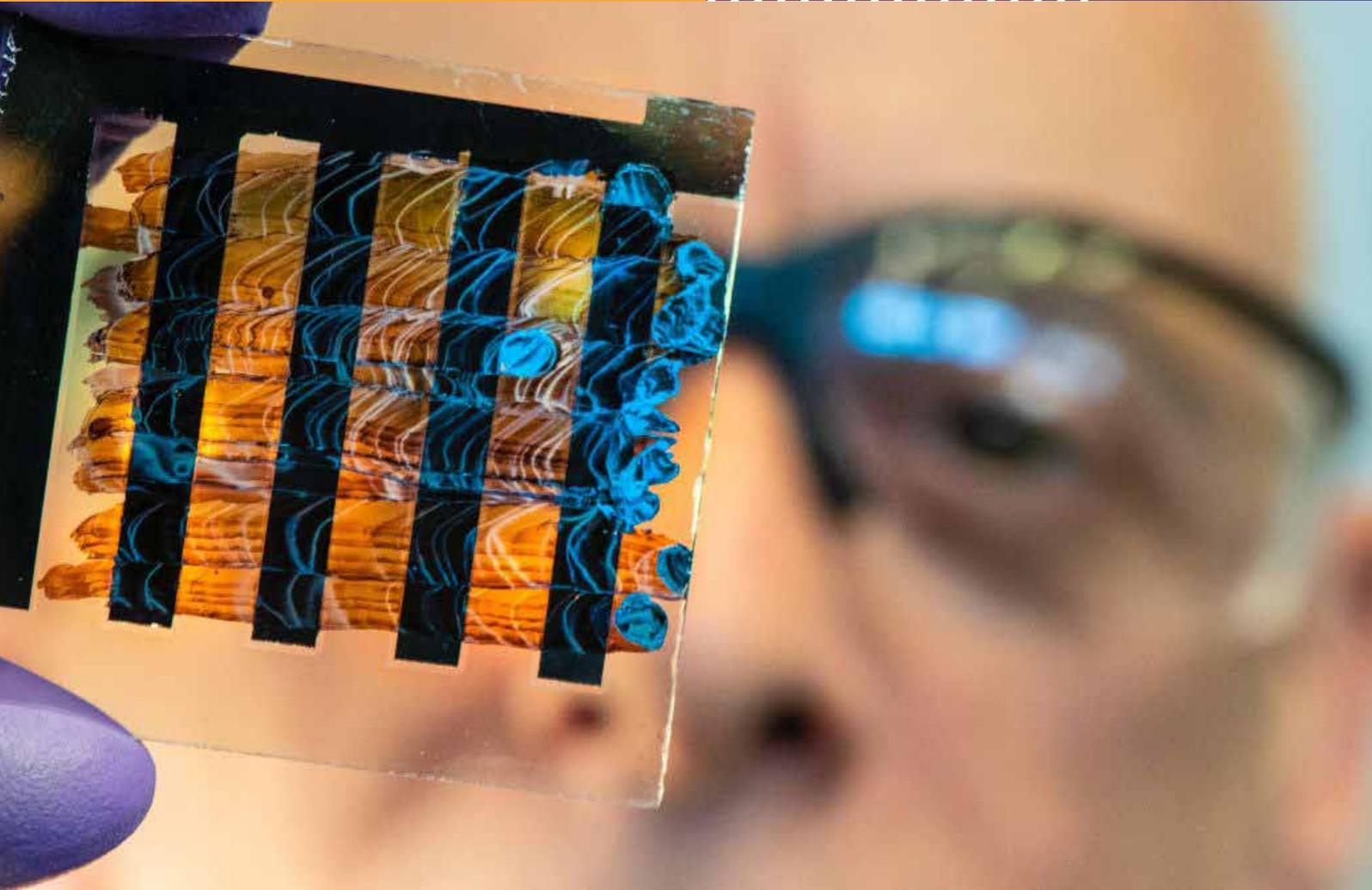


A guide to higher
education in Wales

Research and innovation



Welsh universities undertake world-leading research that brings tangible benefits to the people and places of Wales.

From international partnerships drawing in investment and expertise, to localised collaborations with small and medium sized enterprises bringing innovation to the front line of Welsh business, developing new products and services and generating jobs. Our research and innovation sector will be key to tackling the challenges Wales faces, from climate change to technological change and workplace transformation.

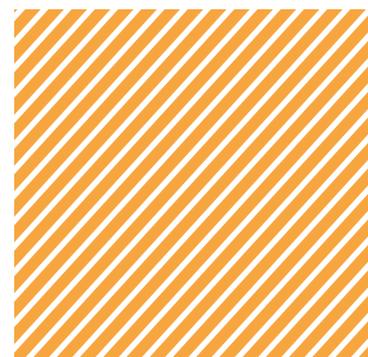
Research and innovation funding

There are two broad categories of research funding, which operate in a dual-funding system:

- Un-hypothecated ‘quality-related’ (QR) funding acts as general funding for research infrastructure, not linked to specific projects and supports basic research. This provides institutions with the ability to build capacity and secure external grants. This funding is drawn from the overall grant Welsh Government provides to HEFCW, and is distributed by HEFCW.
- External funding can be secured through winning competitive bids for specific research projects, from Research Councils such as UK Research and Innovation and Horizon Europe. QR funding is often needed to match-fund these bids.

The Research Wales Innovation Fund was introduced in 2019 to provide core research funding specifically aimed at allowing universities to increase their capacity to engage with business.

There is a strong correlation between QR and competitive funding, as QR funding unlocks a university’s potential to be successful in winning bids.



QR funding is key in allowing universities to reliably fund researchers and research infrastructure, and can be used to fund cutting-edge research without specific parameters.

Professor Graeme Reid, in his 2018 review of Welsh research funding, strongly advocated for a real-terms increase in QR funding to reinforce the Welsh Research Base, particularly in light of the impact of our withdrawal from the European Union. The Economy, Infrastructure and Skills Committee in their 2019 report on Research and Innovation in Wales recommended the Welsh Government implement the recommendations of the Reid Review in full.

Welsh universities have delivered significant benefits to communities in Wales through European Structural Funds. Between 2014-2020 over £300m of European funding was awarded to projects that Welsh universities were lead partners for. Replacement regional investment opportunities will be crucial in sustaining the research infrastructure and capacity that this funding supported.

Wales Innovation Network

In 2019, Universities Wales commissioned Professor Graeme Reid to deliver a report making recommendations on the future of the Welsh research base. In his 2019 report, *Strength in Diversity*, Professor Reid found that a significant 'untapped resource' of Welsh research is diversity. The broad range of specialisms and resources across Welsh universities could be harnessed to strengthen Wales' capacity to secure external research funding.

The **Wales Innovation Network (WIN)** has subsequently been established, bringing together all Welsh universities to collaborate on research bids. The WIN Board is made up of Pro Vice Chancellors from each university in Wales, who will shape the direction and focus of the network. A professional team is based in Universities Wales.

| Case Study

The **ASTUTE 2020 (Advanced Sustainable Manufacturing Technologies)** operation supports collaboration in industrial Research, Development and Innovation (RD&I) between world-class academics based in five Welsh universities and a team of technical experts and project managers and industry.



Successful projects have included a collaboration with Brother Industries (BIUK) to develop printer cartridges made using recycled plastics. BIUK can now transition products currently made from virgin resins to recycled resins, creating a direct environmental impact, reducing the use of raw materials, saving energy and reducing CO2 emissions from manufacturing and landfill. As a result, this will contribute to Government targets, the Paris Agreement and UN Sustainable Development Goals.

Case Study

Knowledge Economy Skills Scholarship (KESS) is a programme led by Bangor University on behalf of the higher education sector in Wales, funded by European Social Funds. KESS supports collaborative research projects, placing research master's and PhD students with external partners ranging from SMEs to large companies, social enterprises and public bodies, including Tenovus Cancer Care, Natural Resources Wales, Tata Steel, S4C, National Botanic Garden of Wales, Mencap Cymru, Halen Môn, Qioptiq Ltd., P&S Nano Ltd. and the Tidal Lagoon Swansea Bay.

SMEs taking advantage of a KESS 2 project benefit from being able to focus skills towards a research area related to their business at a significantly lower cost than, for example, commissioning a research organisation to undertake such work

Successful projects so far have included:

- A partnership between a PhD student at Bangor University and the Savari Research Trust, developing a range of fungus-resistant tomatoes optimised for the Northern European climate
- A University of South Wales PhD student working in RUMM (Remote Utility Monitoring and Management) as a low carbon psychologist, identifying energy saving interventions based on behaviour change for large companies
- A collaborative partnership between the Brecon Beacons National Park Authority and Swansea University, involving a PhD student researching the rate of continuing carbon deposition and exchange in peat bogs – an area of conservation research of increasing importance