

LEARNING CURVE



The Registry Building at University of Wales headquarters in Cardiff

Learning Curve

Professor Marc Clement, Vice-Chancellor and Chief Executive, University of Wales

Wales has always been known for its emphasis on education – an emphasis not confined to politicians and professors. By the end of the nineteenth century, education was recognised by the working population as their way out of poverty, and their ambition did not stop short at primary or secondary education.

The University of Wales was brought into being through the enthusiasm for learning and the determination, not to mention the generosity, of ordinary Welsh people and, as the University's current Vice-Chancellor, their efforts leave me both immensely appreciative and greatly humbled.

It was the unselfish collective work of those people which allowed me, and so many others, to gain an education which has provided us with opportunities of which they could never have dreamed. It is amazing to think that, in little more than a century, Wales has developed a complex and wide-ranging spread of higher education provision, with more than 90,000 students currently enrolled on university courses.

The present economic recession poses some familiar problems for a new generation – and also for those who are facing redundancy. In Wales, just as education was our answer to economic difficulties in the past, so it may be our best response now. However, the nature of that education has had to be rethought to meet the needs of the twenty-first century.

The Assembly Government needs Welsh higher education to provide the climate which encourages innovation and ingenuity, and generates developments of social and economic value. Not only must the sector produce the highly qualified people which a more developed economy demands, the government looks to it for the promotion of creativity and entrepreneurship, for the provision of an advanced technology base to attract more research and development and inward investment, and for an expert source of knowledge transfer and advice.

If Welsh higher education is to be successful in helping to deliver solutions to the nation's current concerns, it must ensure that its strategic thinking is open to new ideas and possibilities; collaborative, involving both universities and external partners; multi-disciplinary, and global in its scope, helping to raise the international profile and influence of a Wales increasingly known and recognised throughout the world, and to which the world is increasingly welcomed.

In other words, we need our higher education institutions to be more than universities, in the accepted meaning of the word. They may be diverse in their nature, but that very diversity often produces a wealth of ideas, needing only shared goals, a shared sense of identity and the willingness to work collectively to bring about the trust necessary for innovation and growth to flourish. As Gerallt Gymro (Giraldus Cambrensis) said about the Welsh people, back in the twelfth century, "If they were inseparable, they would be insuperable." We in Wales may be a small nation, but we are gifted in creativity, in innovation and in entrepreneurial thinking, and it is when we work together that we make the most of these attributes.



[The Prince of Wales Innovation Scholarships have the capacity to make a significant impact on the Welsh economy. They will recruit extraordinary people, from the best graduates worldwide, to ensure Wales is at the frontier of research and industrial excellence.]

The world is our campus

Bringing the best to Wales



University Chancellor, HRH The Prince of Wales, launching the Scholarship Scheme

The University of Wales has, since its reconstitution in 2007, reconsidered and updated its agenda to meet the challenges of the present and the future. It has an extensive, growing network of partners in Wales, the UK and throughout the world, providing the connections necessary to export excellence from Wales to the world, and to draw excellence to Wales. The University is committed to contributing its full share to producing a confident, out-going Wales which recognises the strength of its own identity and the part which it can play in the world.

The Prince of Wales Innovation Scholarships programme, launched officially by HRH The Prince of Wales—the University's Chancellor—at Clarence House in May 2009, is an ambitious new scheme designed to boost Welsh economic performance and innovative capacity and improve links between business and higher education. Part-funded by the European Regional Development Fund through the EU Convergence Programme, administered by the Welsh Assembly Government, the Scholarships aim to attract the world's most talented graduates to work with Welsh businesses with one of the best financially supported PhD packages in the world—an annual £20,000 stipend, a £5,000 research grant and tuition fees fully paid.

100 of the world's best graduates will be recruited between 2009 and 2012 to help improve research and development capability and cutting edge thinking, to generate new products, processes and patents from Welsh business. Such activity can boost our knowledge-based economy, attracting new companies to Wales.

The Scholarships form part of the 'Global Academy' developed by the University with its strategic partners, including NESTA (National Endowment for Science, Technology and the Arts) and the Welsh Assembly Government. The Academy's purpose, as part of the University's constant desire to benefit Wales and its sustainability within the global context, is to enhance synergy

between higher education and the private sector, boosting economic and innovative performance. Another initiative will bring Visiting Innovators—top academics and industrialists from around the world—to Wales to help improve business links and expand the open innovation environment.

The Prince of Wales Innovation Scholarships have the capacity to make a significant impact on the Welsh economy. They will recruit extraordinary people, from the best graduates worldwide, to ensure Wales is at the frontier of research and industrial excellence. We believe that this is a win/win situation – if these young people are assured of an enriching experience during their scholarships, a little of Wales will be embedded in their characters; it will be splendid if some choose to stay in Welsh industry, but those who go on to work elsewhere will be ready-made ambassadors for Wales. Our business community, too, will be enriched through exposure to new young talent from different backgrounds and different ways of thinking.

We hope that many firms will partner with us on this project to make innovation and enterprise by-words for the Welsh business sector and to show that a small economy can punch above its weight, competing successfully with the best in the world. The Prince of Wales Innovation Scholarships really will allow the University of Wales—and Wales as a country—to compete on a global stage.

For more information, visit the global Academy's website:
www.globalacademy.org.uk



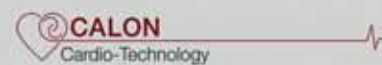
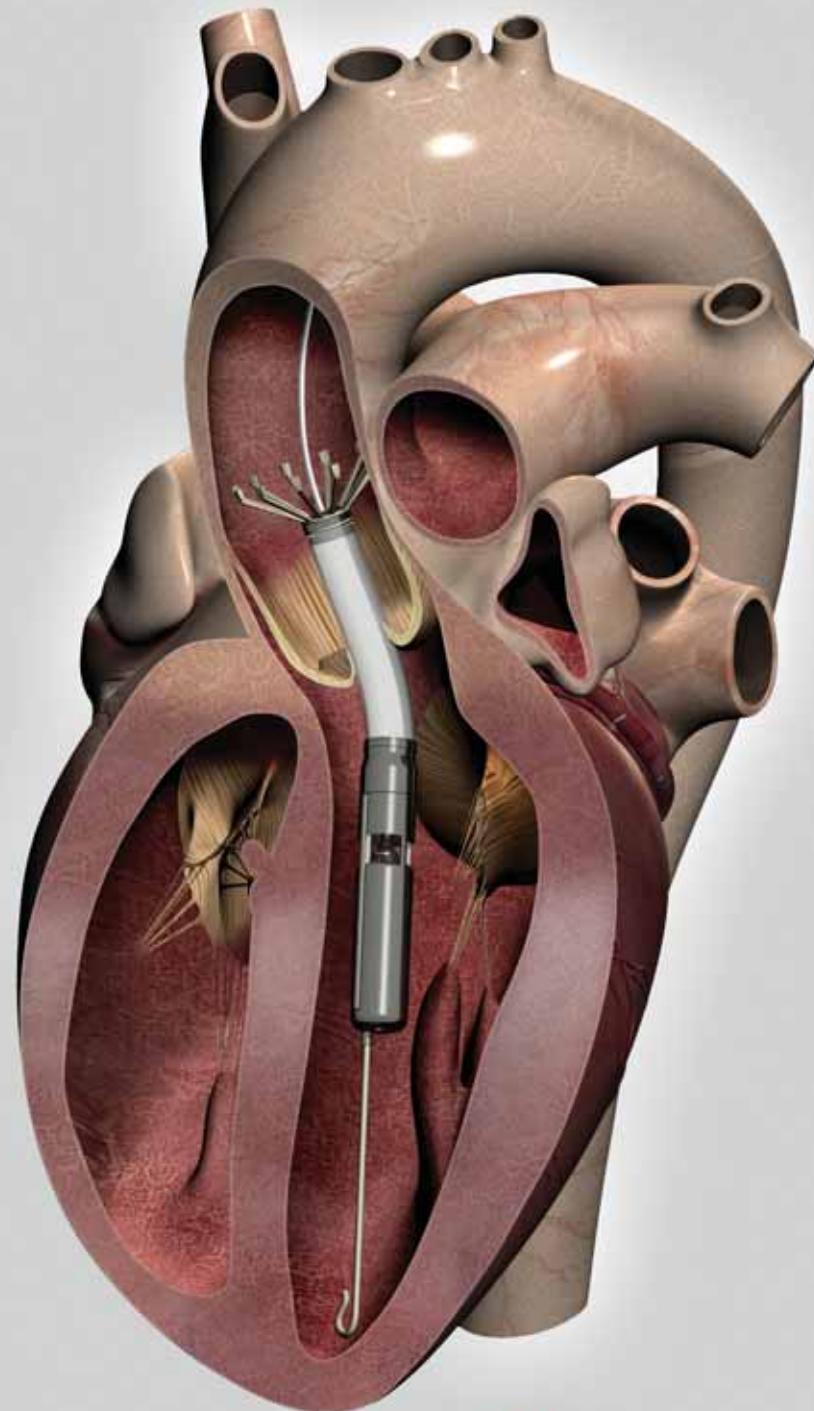
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Heartfelt Innovation

Jenny Childs

Marc Clement doesn't fit the popular idea of a top physicist, despite his recent Sunday Times billing as "widely regarded as one of Britain's finest". He doesn't even fit his own idea of a top physicist.

[Marc Clement may not fit the popular idea of a top physicist, but he is a physicist who can communicate research visions, put together partnerships to develop and finance them and persuade companies to produce them. The type of physicist Wales needs.]



Quietly spoken and self-deprecating, Marc Clement refuses to claim the status of world-class researcher. His

strengths, he contends, lie in working with others, putting together effective partnerships which can deliver real results. Certainly the close interest he shows in our conversation suggests both respect for the views of others and an inclination towards teamwork.

The projects he is most proud of exemplify this partnership approach – setting up the Technium network of business incubation centres (of which there are now ten around Wales); opening the Institute of Life Sciences at Swansea University, during his time there as Chair of Innovation – persuading both the Welsh Assembly Government and IBM to become involved; and developing the Boots Innovation Centre.

Marc's vision for the Technium concept – to support the knowledge economy, to create an environment and culture where people could create businesses – was shared by Stephen Davies of the Welsh Development Agency; together they wrote the bid for a project which, in its first two years alone, attracted close to £50m of investment in the Welsh economic infrastructure.

His work, he explains – whether academic or business – has always been to do with innovation, with new ways of thinking and doing, making improvements to the way we live our lives.

This holds true for his own research work, which is largely in the field of photo-regenerative medicine – the use of light to initiate natural healing processes in the body – and in the development of associated medical devices. This began with cervical cancer treatments, followed by the investigation of laser therapy for the reduction of vascular birthmarks ("port-wine stains"). A call from Kenneth Clarke, then UK Health Secretary, requested an affordable system for NHS use. Reporting



Marc Clement watching production at Sony, Wales, of his new product for Boots.

back to Mr Clarke (by this time Chancellor), Marc and his partners were able to deliver the technology for treating the birthmarks first in young people, and then mature patients.

Further work on lasers led to another medical advance – the suppression of hair growth in grafted skin, and in tissue grown artificially for cosmetic surgery. Marc explains that, not only did his team develop an effective system, they obtained approval for the new treatment from the American Food and Drug Administration (FDA) – the first approval of this kind to be granted.

His latest invitation to Downing Street has been to discuss the development of a cardiac assist device – a tiny heart pump a quarter the size of an AA battery – which can be implanted into the human body to take over the work of a heart damaged by disease while the heart recovers. "I find the idea of being able to help improve medical treatment in ways like this incredibly exciting", he says.

As we wind up the interview, he is still stressing his role in innovation leadership

over his research credits; his importance to the work, he insists, is the ability to bridge the scientific, medical and financial communities. His most recent product (an intense pulsed light system for home hair removal) is a good example of this, he believes, involving a small group of scientific "inventors" sandwiched between two huge companies, Boots and Sony. As he says, it is a great example of how higher education can work with big business to the benefit of all.

Marc Clement may not fit the popular idea of a top physicist, but he is a physicist who can communicate research visions, put together partnerships to develop and finance them and persuade companies to produce them. The type of physicist Wales needs.



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Caption

The most valuable possession is knowledge

The University of Wales Institute, Cardiff (UWIC) is a confident, modern, metropolitan Higher Education institution with a proud history tracing back to the 19th century. Since then the institution has grown in every sense and can now boast a broad academic portfolio, Taught Degree Awarding Powers (TDAPs) and a research profile which, in turn, informs the curriculum and stimulates enterprise excellence.

UWIC has a wealth of history and tradition in professional and career focused education and training, and continues to provide education and training opportunities that are accessible, flexible and of the highest quality.

Our research activities are designed to foster links between the discovery of new knowledge and its practical application, offering direct support to industry, commerce and the community, and making a significant contribution to the economic, social and cultural well-being of Wales and the wider world. Additionally, we see research as being vital to the provision of a stimulating environment in which staff and students can flourish and fulfil their potential.

World renowned organisations such as Ford (UK), Coca Cola, Nestle, Robert Bosch and Dowty Aerospace have all featured amongst UWIC's portfolio of applied research and knowledge transfer partners.

With a growing international reputation, the institution is committed to developing its leading research groups and supporting new and emerging areas of research across all discipline areas.

UWIC's pedigree for producing graduates of the highest calibre coupled with our ethos of applied research has enabled us to become recognised as Wales' leading source of knowledge development and knowledge transfer and one of the UK leaders to support the Knowledge Transfer Partnership (KTP) programme.

Added to this, UWIC is also engaged in further enterprise activity including consultancy, collaboration, contract research and training.

The institution is continuously assessing the training and skills needs of businesses and investing resources into providing a comprehensive portfolio of training

packages, thereby ensuring that learning is becoming more cost-effective and accessible for businesses throughout Wales.

The Institute's portfolio of part-time training and study opportunities is continually being reviewed and developed with the support and direction of business and industry, making certain that its graduates are armed with the skill, and knowledge relevant to the world of work today – and that of the future.

Committed to meeting the needs of partner organisation in Wales and strengthening global links, UWIC now attracts students from more than 125

different countries and has the highest proportion of international students studying at a HEI in Wales. International franchising of UWIC courses is now underway with partner organisations in Kuala Lumpur, Singapore and Dhaka.

UWIC is investing over £50 million to transform our campuses and to develop a state-of-the-art learning and teaching environment with world-class research and enterprise and support facilities. These new facilities form part of the institution's plan to develop its estate and to continue to attract high-calibre staff and students from across the UK and overseas.



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