Education Wales

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Union's cool new idea to get students engaged in politics

A STUDENTS' union has landed a novel way of engaging university voters – by hiring a fleet of General Election ice cream vans.

Cardiff University's student leaders have arranged for four election-themed vans to work their way around campus giving away free ice creams.

But before unassuming learners tuck in to their icy treats, they are being encouraged to learn more about the policies that matter to them.

As well as registering to vote, city students are reminded of the impact they could have on the key marginals of Cardiff North and Cardiff Central.

There are currently 8,268 students living in Heath, and in the 2010 General Election, the corresponding Cardiff North seat was won with a majority of just 194.

Former Labour MP Julie Morgan lost to Conservative Jonathan Evans in Cardiff North five years ago and students may well hold sway again next month.

Students' union president Elliot Howells said the ice cream vans were designed to "create a buzz" and get students "talking about something they may not normally talk about".

He told student newspaper Gair Rhydd that the National Union of Students (NUS) UK, based in London, had contributed £5,000 to the scheme on the back of Cardiff's impressive response to National

Gareth Evans
Education Editor
gareth.evans@walesonline.co.uk

Voter Registration Day.

The vans have stopped outside the university's main building in Park Place; University Hall in Penylan; and Talybont in Gabalfa.

NUS Wales president and Cardiff University graduate, Beth Button, praised the students' union's intuition.

She said: "Given the unprecedented number of students expected to drop off the voting register, the creative approach taken by Cardiff University Students' Union to raise the profile of the upcoming elections should be applauded.

"A change in the way voters are registered – shifting the responsibility on to individual students – risks seeing thousands of Welsh students disenfranchised for the Assembly elections next year.

"NUS Wales will continue to argue such fundamental changes could and should be delayed until after the Assembly elections to maximise the voice of young people.

"Until that happens, students' unions will need to take inspiration from Cardiff's imaginative approach to reach as many students as possible."

Cardiff University has been ranked as having one of the most influential student populations in the UK when it comes to the General Election, which takes place on May 7.
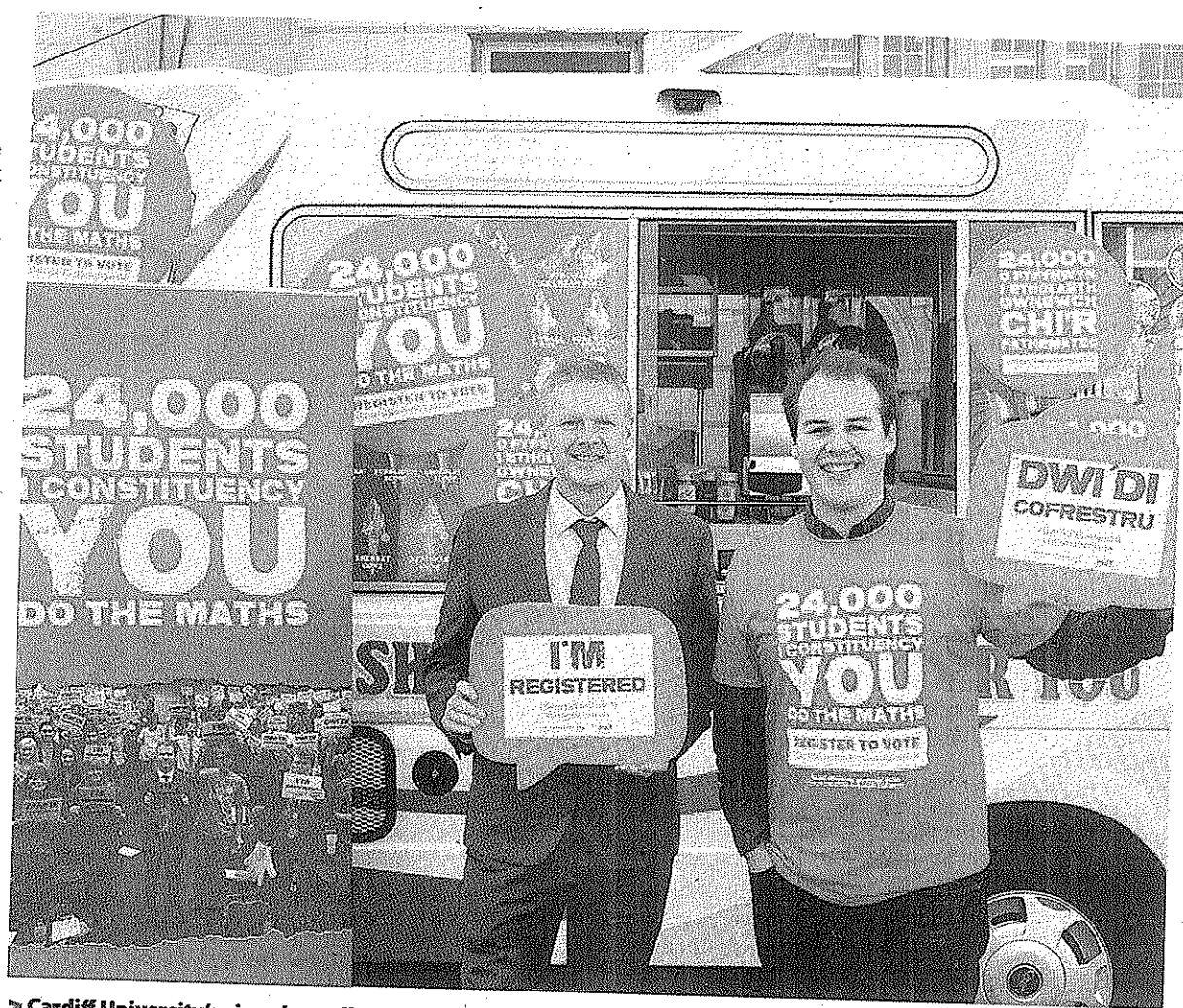
➤ **Cardiff University's vice-chancellor Professor Colin Riordan with Elliot Howells, president of Cardiff's students' union**

Alex Stewart

A UNIVERSITY VIEW

I WAS very fortunate to go to school in a high-technology area (Hatfield, in Hertfordshire).

Although this was just a state school, an energetic mathematics teacher (the late and lamented Dr Bill Tagg) negotiated access to a computer in the technical college next door: it is believed that this was only the second school in the UK to enable pupils to get access to a computer (this was in 1964).

Computers then were very expensive and rare machines and even the majority of colleges and universities did not possess one. Although the computer used was regarded as a state-of-the-art machine, it was of almost unbelievably small capacity by modern standards (4kHz clock frequency and 27kbyte memory), but this had the advantage of requiring great skill to drive it efficiently and hence it was both possible and desirable to drive it at the lowest level of "machine code", which is the most basic level of programming of bits in the electronic circuits.

This gave a deep insight into the functioning of the machine that has

remained a valuable education for me.

My next interaction was with a Digital Equipment Corporation PDP-8 computer, which was radical in its day in being compact enough to sit on a desk, not requiring air conditioning and being relatively cheap ("only" a few thousand pounds).

For this, the Fortran language was used to undertake some engineering simulations. However, this machine was in an interestingly creative laboratory at the University of Reading, where early experiments on computer graphics were undertaken by some of my more senior colleagues.

Later, this machine was replaced by a "Modular One" computer which was an interesting British innovation in computer architecture

but which ultimately proved to be a dead-end branch line.

Moving on to the University of Bradford, I used what had by then become fairly standard technology of ICL mainframe computers programmed using punched cards, but I also had some interaction with "supercomputers", starting from a CDC 7600 and moving on to large vector processors such as CDC Cyber 205, Cray X-MP and later a Fujitsu VP400.

Super-computing then moved on to massively parallel machines, but first came the arrival of microprocessor chips and then relatively cheap "home computers", leading on to personal computers.

There were several types of home computer that were popular, but my experience was mainly with Commodore PET and BBC models.

To our surprise, however, the IBM design entered the market and became dominant, including changing the terminology to "personal computer".

The first Intel microprocessor chip, the 4004, came out when I was

starting my research work and I considered using it but ultimately plumped for discrete logic. Nonetheless, I have lived through the whole evolution of Intel chips, which have defined the progression of "Moore's Law" and which in turn has driven the increasing adoption of computing power in most walks of life.

The IBM personal computer paradigm has served us well, although there was a hiatus around the end of the 1980s when it seemed that such computers would never have enough power to do interesting work. This view was overturned in a linked set of events, including the end of the Cold War, the rise of the internet as a public communications medium, and the increasing availability of rich graphics on PC screens.

The PC has thus come to dominate computing at least until recent times, but there still seemed to be a place for very powerful supercomputers and my main research work required, in principle, as much power as possible.

The progression of miniaturisation, combined with the need for rich communications, led to a vision in my own mind at the end of the last century that the smartphone was going to become the dominant computing and communications platform.

This has indeed come to pass, although it took longer than I expected. I do not believe that the smartphone is the end of the line: the tablet seems to be an interim step and my expectation is that wearable computing will take over as the dominant paradigm.

Thus, all this history, which covers a majority of the history of electronic computing, will be reviewed and lessons drawn out from it, above all about the errors of forward vision that held back the British computer industry and caused the demise of many erstwhile-great companies in the USA. Some attempts will be made to construct better visions for the future.

◼ **Professor Peter Excell is deputy vice-chancellor of Glyndwr University.**