



Team behind mobile phone camera snap up invention prize

Four researchers from the School played a key role in the development of the mobile phone camera. They were awarded the Rank Prize for developing and commercialising technology in the 1980s, that is used every day by millions of people.

Peter Denyer, David Renshaw, Wang Guoyu and Lu Mingying received the £80,000 prize set up by the late Lord Rank to recognise scientific advances that have benefited mankind.

The team first produced simple black and white cameras. By 1993, they generated colour images from a tiny electronic sensor produced in CMOS (Complementary Metal Oxide Semiconductor) technology.

The researchers formed VLSI Vision, an early Scottish university spin-out business, which subsequently became the first such spin-out to become a public company. ST Microelectronics acquired the business in 1999. Today hundreds of millions of CMOS cameras are in everyday use, in mobile phones and optical computer mice.



From left to right: Lord Broers, FREng, FRS; Professor Wang; Professor Lu; Dr Renshaw; Professor Denyer; The Earl of Selborne, KBE, FRS

New industrially funded scholarships for top students

Eleven companies are providing twenty scholarships under the School's new scholarship 'pool', offering financial support to our best electronics and electrical engineering students.

Under the new scheme, companies pay into a scholarship "pool". All UK students who achieve four A-grades at Scottish Higher or three A-grades at A-level are automatically awarded a scholarship, and receive £1000 annually for three years from the "pool". Each student is not, however, sponsored by a particular company. During their third year the students apply for industrial project placements, to perform their seven months honours project at the company. Companies participating in the scheme interview the most exceptional students before other employers. By this stage in their studies the prospects for a long term relationship with a company are greater.

Colman Clarke, Vice-Principal of Engineering for Wolfson Microelectronics, said: "The scholarship pool is a great way to encourage exciting new engineering talent of exactly the type we like to employ. The University of Edinburgh turns out excellent graduates and we're delighted to be involved."

Snow slab avalanches fracture the other way round

Slab avalanches are often triggered by skiers and are the cause of many skiing accidents each winter. Their main cause, according to researchers based at the School's Institute for Materials and Processes, is subsurface fractures which can be described as anticracks, because their fracture plane grows under compression. Snow scientists previously thought that slab avalanches were caused by shear cracks creating a slip surface in the snow.



What would you do with money won from awards

The BRE Centre for Fire Safety Engineering has launched a corporate tartan. "Edinburgh Fire" has been approved by the Scottish Tartans World register. The tartan was designed and produced using prize money from two awards won last year by the research group. The Best Paper award from the 5th Fire & Explosion Hazards International Seminar was presented by FM Global, a leading insurer and underwriter operating in the engineering sector. The second award was the 'Bodycote Warrington Fire Research Prize for the Best Paper in Fire Safety Engineering' in 2007 presented by Jon Pagan of Bodycote Warrington to the papers leader, Cecilia Abecassis Empis, and her co-authors.

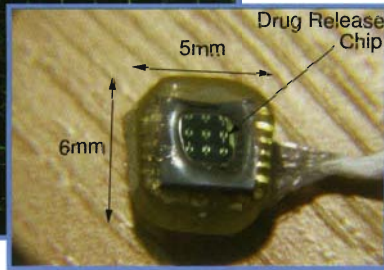
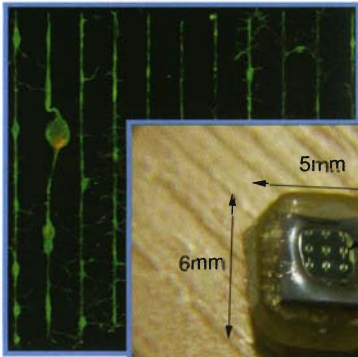


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Miniature wireless drug implant to revolutionise medication delivery



A group led by Professor Anthony Walton has developed a prototype device to implant in the body that can deliver therapeutic drugs. Patients who need regular medication could have it delivered by this implant. It is powered and controlled by the patient, via a wireless link. Micro-sealed silicon reservoirs contain minute, precise quantities of medication and an electrochemical reaction removes a gold cap to release a single dose. The entire system is 5mm across and can thus be implanted into many parts of the body, such as the vitreous cavity of the eye, where it could release drugs to control chronic diseases, such as glaucoma. This work has been published in the IET's Nanobiotechnology journal.

In a parallel programme led by Professor Alan Murray and Dr Evangelos Delivopoulos funded by EPSRC, a technology is being patented that causes biological cells to grow along predefined pathways on a silicon chip. This will allow body tissue to be guided to diagnostic sensors and drug-delivery capsules and may, in time, lead to the ability to "re-wire" damaged tissue at a microscopic level

Student Prizes

Our students have had another very successful year winning prizes in various categories:

Undergraduate receives Sir William Siemens Medal

Andrew Angus is the latest SEE recipient of the Sir William Siemens Medal. Andrew, who is currently a PhD student, received the award at a ceremony at the new Siemens UK headquarters in Frimley, Surrey. The award recognised Andrew's outstanding performance during his 5th year of the MEng Electronics and Computer Science programme.



Andrew Angus receives the Sir William Siemens Medal from Tom White, Chief Executive, Siemens plc

Highly competitive scholarship won by first year PhD student

Apostolos Evangelopoulos, a 2nd year PhD student has been awarded a highly competitive scholarship by the Alexander S. Onassis Public Benefit Foundation in Greece for the continuation of his studies. His research concerns the fundamental behaviour of complex fluids on surfaces, seeking an understanding of these processes at the nanoscale as the size of the droplets reaches molecular dimensions. To this end, his project concentrates on polymeric fluids and he uses a combination of theoretical tools and computer simulations to explore the behaviour of such very small scale objects.

Two new fellows

Congratulations to Professor Robin Wallace and Professor José Torero-Cullen on their recent election as Fellows of the Royal Society of Edinburgh. Professor Wallace is Head of the Institute for Energy Systems where his research interests include renewable energy development, particularly marine, and the interaction of distributed renewable energy generation with the electricity network. Professor Torero, as Head of the Institute for Infrastructure and Environment, researches primarily in the areas of fire dynamics, smoke detection & management, protection and suppression systems.

Research and knowledge transfer on the rise

The School has enjoyed another year of growing strength in research, knowledge transfer and the interplay between these two vital activities.

Research awards have grown by 50% since 2005-6 to more than £10.6m/annum and knowledge transfer (KT) income has almost doubled since 2006-7, reaching more than £1.2m/annum in 2007-8. The School is once again the University's most effective provider of academic knowledge to the world of industry, commerce and medicine - a flow of knowledge that is essential to the country's competitiveness.

Clearly, money is a rather crude measure of academic activity and its quality, but it shows beyond any doubt that we have created a net measurable increase in the volume of our research and KT activity. These figures are also two of the most important "metrics" in the government's research assessment process - a competition in which we intend to excel.

New Mobile Virtual Centre of Excellence (VCE)

The Institute for Digital Communications will be part of a new Mobile Virtual Centre of Excellence (VCE) project on "Green Radio". The Mobile VCE (www.mobilevce.com) is a consortium of universities and companies, working in cellular wireless communications. The Institute was selected by VCE companies to participate in the new project in April 2008. These include equipment providers such as Nortel and Lucent-Alcatel and service providers such as BT, Orange and Vodafone.

Alumni News

Former student promoted to Personal Chair at Imperial

Mike Lowe, a former student at the University of Edinburgh, has been promoted to a Personal Chair in Mechanical Engineering at Imperial College, London. He received a BSc in Civil Engineering from the University of Edinburgh in 1979, and an MSc and PhD in Mechanical Engineering from Imperial College in 1987 and 1993 respectively.

Former PhD student awarded the RAE Silver Medal 2008

Dr Barbara Lane, Associate Director of Arup, has been awarded The Royal Academy of Engineering Silver Medal 2008. This is in recognition of the work she has done to revolutionise fire resistance in building design, based on sophisticated computer models which analyse how steel-framed structures behave during fires.

