

the loughborough university VIEW

spring/summer 2011

in their best interests

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helping the police to stay on the beat

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in their best interests

Decisions to protect the welfare of infants who are suffering or at risk of significant harm are extremely difficult and can have long-term consequences for those children's life chances. Staff from the University's Centre for Child and Family Research look at how such decisions are made, and whether they can be improved.

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helping the police to stay on the beat

"The most significant change to the way we police neighbourhoods, since the introduction of the police radios in the 1950s" – that's how one senior police officer described the introduction into Leicestershire Constabulary of mobile technology devices, developed in collaboration with a research team from Loughborough University. Debbie Hughes meets the team behind this important development.





Police officers know their time is better spent out on the beat or dealing with victims, but the reality is that the paper work has to be done. Leicestershire Constabulary wanted to address this issue, which was later supported by a Government initiative. But while the Force had an idea about how it could ensure officers stayed out and about, instead of having to keep heading back to the station after each call to finalise paperwork, it was unsure exactly how to achieve such a significant cultural change.

They approached the Department of Information Science at Loughborough University, where extensive research has been undertaken into work place communication, and Drs Tom Jackson and Louise Cooke were tasked with finding a sustainable, working solution for the Constabulary.

The resulting project has now been fully rolled out across the Force, with every relevant police vehicle – from patrol cars and detective vehicles to the tactical firearm unit and armed response vehicles – featuring the new system. This has enabled the Force to be more productive and efficient by increasing the time officers can spend working in communities.

Dr Tom Jackson explains the University's role. "We have been involved in the selection of, and modelling the acceptance of, Mobile Data Terminals (MDTs), which are connected to docking stations in the police vehicles. They enable officers to remotely access the same desktop systems they find in the police station, via 'Citrix XenDesktop' technology.

"As well as being able to use the MDTs on the docking stations in vehicles they can also be removed and used remotely by officers at the scene of an incident or crime and by neighbourhood officers working in local communities in public premises such as schools, church and village halls, libraries and shops. This opens up a much more flexible way to work and manages the time they spend in the community much more efficiently."

The MDT solution was also awarded one of the cherished Technology Excellence medals in the 2009 Chartered Institute for IT awards.

For Leicestershire Constabulary the implementation of the MDTs has had a genuine impact on policing practice and effectiveness. There has been a 15.2 percent increase in officer visibility; reduced vehicle mileage and service costs; more effective scheduled responses to members of the public; and an increase of 600 percent in agreed appointments. It has also dramatically reduced the time it takes to make a crime report available to another officer to investigate, from a minimum of three days previously to just 11 minutes.

The resulting project has now been fully rolled out across the Force, with every relevant police vehicle

– from patrol cars and detective vehicles to the tactical firearm unit and

armed response vehicles – featuring the new system.

Once the project had begun its pilot phase with the Force in 2008, Dr Cooke and Dr Rachael Lindsay, a PhD student at the time, conducted an evaluation study in Leicester city centre.

"We undertook a rigorous, longitudinal, action research approach to the evaluation, throughout both the design process and the implementation of the project," explains Dr Jackson. "The longitudinal study deployed a range of methods, including observational work-shadowing of users and focus groups over a nine month period, which afforded an in-depth understanding of usage."

It has been estimated that mobile technology devices, if implemented and used correctly and to their full potential, could save the average police force £800,000 a year. With a full set-up cost of just £440,000 – which includes the cost of the devices, docking stations, wiring re-fits of the vehicles, airtime, IT infrastructure and accessories – it is clear to see its financial benefit to a police force at a time of cuts across the board.

Leicestershire Constabulary now has 730 police officers and 293 sergeants as well as other specialised officers using the MDTs. And the system looks set to be introduced into other UK police forces, with Leicestershire being approached by Cleveland, West Midlands, Norfolk, Lincolnshire and Essex, to name just a few, who are interested in the technology. So far 15 forces have visited Leicestershire to see the MDTs in action.

Inspector Tony Price of Leicestershire Constabulary's Mobile Information Team said: "MDTs have enabled us to reduce bureaucracy, increase the availability of intelligence, and increase the visibility of police officers. We are now able to respond more effectively to the needs of communities and make them safer."

The University has now secured funding from the Engineering and Physical Sciences Research Council (EPSRC), which will allow Dr Lindsay to take up a post-doctoral position working with Leicestershire Constabulary. This research will initially concentrate on the implementation and evaluation of an electronic signature facility for MDTs, together with a programme of research into benefits and performance analysis of the mobile solution.

The success of the MDT project has also opened up new opportunities for the Department of Information Science to carry out research in the policing sector at a national level.

"We've been given the opportunity to work with the National Policing Improvement Agency and its successor body on a major, high-profile national project, namely the evaluation of risks and benefits in the implementation of the Police National Database," said Dr Cooke.

"It's a really exciting prospect for us."

Want to know more?

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To see this technology in action, view the online video of this story at www.lboro.ac.uk/theview

in their best interests

News stories of children suffering from abuse and neglect at the hands of their parents or carers are something we see all too often, and they never fail to shock us. The most recent case of Baby Peter is still making headlines three and a half years after his death at the hands of his mother and her partner, and many questions have been raised over the involvement of professionals whose role it was to protect the child who had been identified as 'at risk of maltreatment'.

A team from Loughborough's Centre for Child and Family Research have examined the decision-making processes of professionals with responsibility for the protection and promotion of the welfare of children who are suffering, or likely to suffer, significant harm before their first birthday. Debbie Hughes went to meet Professor Harriet Ward who led the research.





Decisions made by practitioners to protect and promote the welfare of infants who are suffering or at risk of significant harm are extremely difficult and will have long-term consequences for their life chances. So, in a bid to determine how such decisions are made, and whether they can be improved, the Department for Children, Schools and Families, now the Department for Education, turned to Loughborough's Centre for Child and Family Research (CCFR).

They conducted a study across ten UK local authorities, focusing on a sample of 57 children, who became looked-after before they were one, or were the subject of a core assessment or a 'Section 47' enquiry – an investigation that Children's Services carry out when they have reasonable cause to believe that a child living in their area has suffered or is likely to suffer significant harm. Forty three of those included in the study were followed until they were three years old.

The aim was to understand how decisions are reached and what the consequences are, and to learn more about the weight given to evidence about risk and protective factors, and the role participants, including birth parents, play in the decision-making process.

The report has far-reaching implications for current policy and practice, with a key recommendation to reduce delays in decision-making for very young children and to ensure the welfare and needs of the child are prioritised above those of the parent.

"The decision to separate children from their parents goes against the grain for all of those involved," explains Harriet Ward, Professor of Child and Family Research and Director of CCFR. "However, the study raises considerable questions concerning the accepted threshold for significant harm, particularly where neglect and/or emotional abuse are the key issues.

"Currently the expectation is that virtually all children will be able to remain with their birth parents. However, we are seeing birth parents being given chance after chance to overcome abusive or neglectful behaviour patterns, but in the meantime these infants are suffering significant harm and the longer the process goes on the greater the damage."

Some birth parents are able to overcome major adversities, such as substance misuse, mental health problems and domestic violence, and provide a nurturing home within a reasonable timescale. About a third of the birth parents who took part in the study succeeded in doing this, often against considerable odds. But all those who managed to make significant and lasting changes did so before the baby was six months old, and most did so in the pregnancy stages. For some of these parents the birth of the baby was the catalyst.

However, 43 percent of those children who remained with their birth families were considered to be at continuing risk of significant harm at the age of three from parents whose situation remained unchanged or had deteriorated. The research notes that if the welfare of the child is indeed the paramount consideration, then professionals and policy makers need to ask much more stringent questions concerning what constitutes acceptable or unacceptable levels of parenting. It recommends that, if children are to be adequately safeguarded with their birth parents, much greater consideration should be given to the development of effective policies and practices to engage potentially abusive parents and to support them in reducing the factors that place their child at risk of being maltreated.

"Delayed decisions had a major impact on children's future welfare," says Professor Ward. "Almost all the initial decisions made by practitioners were temporary, taking an average of 14 months for definitive decisions to be made, and a further six months for these to be realised. Adoption orders often took longer and many had not been completed by the time the children were three. The wellbeing of over half of the children who were permanently separated was doubly jeopardised, owing to late separation from an abusive birth family, followed by the disruption of a close attachment with an interim carer when they entered a permanent placement.

"All recommendations were followed, with two thirds advising that children should remain with their birth parents, although subsequently over half of these children had to be removed from the parental home. Further delays were caused by assessments of numerous extended family members as potential carers, sometimes regardless of their proven inability to care for a child. Some of the relatives had extensive histories of offending and their own children had had very poor outcomes. Many family placements were nearing breakdown at the end of the study."

The parents taking part in the study had significant problems of their own, with at least twenty mothers and an unknown number of fathers already being permanently separated from at least one older child. Many of the parents were also struggling with mental health problems, drug and alcohol abuse and domestic violence. Few had supportive partners, friends or family members; neighbourhood and housing problems compounded the parents' problems.

Professor Ward's team found that despite these enormous hurdles, wherever possible, the least intrusive intervention was offered by professionals, for a minimum duration. Efforts to encourage parents with more entrenched problems to take responsibility were unfocused and agreements were broken with no adverse consequences.

if the **welfare of the child** is indeed the paramount consideration, then professionals and policy makers need to **ask much more stringent questions** concerning what constitutes **acceptable or unacceptable levels of parenting.**

"The consequences for the children are that, in the sample as a whole, by their third birthdays over half of those who had no recognised medical condition were displaying developmental delay or showing signs of significant behavioural difficulties, most prominently aggression and speech problems."

Through interviews with social workers, the researchers found that child development is only a small part of training and one that is quickly forgotten. Some professionals demonstrated little understanding of infant attachments, the impact of maltreatment on long-term wellbeing, or of how delayed decisions undermine children's life chances. In addition no formal paediatric assessments took place.

"A major cause of the delays was specialist parenting assessments made by psychologists, psychiatrists or independent social workers," said Professor Ward.

"What is worrying is the accepted threshold for significant harm," says Professor Ward. "Thankfully none of the children died, but two or three were left in extremely dangerous situations. The health and safety of several more were seriously compromised, probably on a long-term basis.

"This study highlights numerous implications for shaping and improving both practice and policy for the safeguarding of vulnerable babies and children. It is evident from the research, coupled with the cases covered in the media, that this needs to happen quickly with the welfare of children as the priority – not the parents."

Want to know more?

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The full research report – *Infants suffering, or likely to suffer, significant harm: a prospective longitudinal study* – is available to download from the Department for Education website – www.education.gov.uk/publications The report was commissioned before the new UK Government took office on 11 May 2010 and may not reflect current Government policy.



the best of both worlds

With less than 500 days to the start of the London 2012 Olympic and Paralympic Games, and Team GB choosing Loughborough as its pre Games base, interest in the country's elite athletes has never been so high.

Many people, however, may not be aware that 58 percent of the athletes that represented Team GB in the Beijing 2008 Games went through the higher education system and a number of athletes preparing for 2012 are managing an academic career alongside their sporting ambitions.

Robert Knott met with Professor Ian Henry, Director of the Centre for Olympic Studies and Research, to discuss how his work is helping to explain the factors behind managing a 'dual career'.

Loughborough University is renowned for sport. It is home to some of the UK's leading coaches, sports scientists and support staff and has perhaps the best integrated sports development environment in the world, with the country's largest concentration of world-class training facilities across a wide range of sports. It is this environment that attracts elite athletes to come and study at Loughborough.

Although combining sporting achievement with studying for a degree is a tall order, Ian Henry explains this is not necessarily the case. "Although the pressures on elite sportspeople are high, many actually respond well to additional demands, such as studying for a degree," he says.

A number of research projects on the 'dual career' of sport and study have come out of the Centre for Olympic Studies and Research. Most recently the PhD study of Loughborough's Dawn Aquilina looked at negotiating dual career paths in elite sport and university education in Finland, France and the UK.

The study focused on 18 sportspeople, six from each country, from a range of Olympic sports, who were all balancing a dual career. The countries were selected as they provided different models of management for elite sport, based on a typology from earlier work by Professor Henry and Dr Aquilina undertaken for the European Commission.

The study illustrated how the combining of dual athlete and student careers refines and develops transferable skills.

The study illustrated how the combining of dual athlete and student careers refines and develops transferable skills. Skills such as planning and goal setting, team working, interpersonal skills, commitment, leadership and the ability to prioritise are requirements of success in both the academic and the sporting domains.

But rather than seeing a dual career as being difficult to manage or a stressful experience, the study found that athletes who had chosen to engage in educational programmes perceived benefits not only in terms of qualification for an eventual career after competition, but also in terms of enhancing their own sporting performance.

Professor Henry explains: "For some elite athletes there is a need to focus on other aspects of life rather than solely on their sport. This helps them to put their training and performance into perspective, allowing them to deal more effectively with the challenges of sport, including setbacks and injury.

"Not only does it help with perspective, but the study group also demonstrated that the two careers actually supported each other, providing intellectual stimulation from study, release from stress, and improved performance in their sport."

Sport, however, was the primary preoccupation of all of the subjects. Professor Henry says: "The group felt that dedicating time exclusively to elite sport might bring minimal improvement. But this was unlikely to be sustainable, hence their choice to take on a degree programme. So focusing on another area such as study was beneficial, not only as preparation for post athletic careers, but also in terms of motivation in training and preparation."

In order to ensure that Loughborough student-athletes perform at their best in their dual careers a number of support mechanisms are provided by the University. Funding, flexibility and support from key partners all play a part but it is the philosophy of the University that has underpinned Loughborough's success. This is summed up by Andy Borrie, Deputy Director of Sport (Coaching and Performance), in the University's Sport Development Centre (SDC), who said:

"Loughborough University's philosophy is to deliver sporting excellence and support academic achievement. The University has always recognised the dual demands placed upon student-athletes and sees a responsibility in assisting them to meet these demands. We work closely with the student-athletes to help them remain balanced and grounded."

Over the past four years Loughborough has improved its support mechanisms through the work of Jo Emmett, SDC's lead on performance lifestyle issues. Jo has worked closely with colleagues in the University's Academic Registry to introduce flexible assessment and study policies, as well as building the UK's leading student-athlete mentoring service.

The mentoring programme has drawn staff from across the University, as well as experienced student-athletes themselves, to be trained in assisting the younger student-athletes with educational support and life skills development.

Professor Henry and Sports Psychologist David Fletcher in the School of Sport, Exercise and Health Sciences (SSEHS) are currently working with the English Institute of Sport and UK Sport to develop models to evaluate the contribution that this kind of performance lifestyle support can make to medal winning success.

Professor Henry said: "The aim of the review, which combines analysis of policy and of sports psychology interventions, is to identify implicit and explicit policy assumptions about causal mechanism converting performance lifestyle inputs into long-term outcomes, and to evaluate the effectiveness of particular interventions which are based upon those assumptions."

Ian Henry and Andy Borrie presented at the recent Athletes to Business study visit, held at the University. Athletes to Business deals with reconciling top-level sporting achievement with an education and a career. The European Olympic Committee, which manages the project, is undertaking a number of visits, and will make a set of recommendations to improve provision across Europe. Loughborough was chosen as a study visit because of its unique reputation as both a research centre of excellence and as a leading deliverer of lifestyle support in HE.

Richard Smith is one of the student-athletes currently pursuing a 'dual career' and benefitting from the University's support.

Richard helped England to win a silver medal at the 2010 Hockey Champions Trophy. He has also played in a World Cup and the Commonwealth Games, and scored on his Great Britain debut playing against Argentina.

Richard has been studying for an MSc in Business Analysis and Management at Loughborough University. While he was developing as a player at Loughborough, he also successfully completed an undergraduate degree in Maths and Sports Science, achieving a 2.1.

A number of key factors put in place by the University are helping Richard achieve in his studies and on the hockey pitch. These include scholarship funding and flexible study offered to elite level athletes.

"My student and sporting experience at Loughborough has been of the highest calibre," says Richard. "Loughborough has not only given me the opportunity to develop my academic career and work opportunities, they have also supported my sporting ambitions to play for Team GB in the London 2012 Olympic Games."

"My undergraduate degree offered me the opportunity to shape my career using my maths and problem solving skills, but also continue my interest in sport. Now I'm doing an MSc in business analysis and management and getting opportunities to utilise my learning with work experience that I have undertaken in the sports and business sectors."



Want to know more?

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Visit: www.athletestobusiness.eu/study-visits/loughborough/

capitalising on a bright idea

American economist and Harvard Business School Professor Theodore Levitt once wrote: "Creativity is thinking up new things. Innovation is doing new things."

It's a distinction at the heart of the commercialisation of academic research. It is that desire for action – for impact on the world around us – that so often drives the leap from academia to industry.

Sarah Hall met two Loughborough academics who chose to tread the winding path from creativity to innovation – and survived to tell the tale.



Loughborough's Professor of Applied Mechanics Jon Huntley is co-founder and Technical Director of University spin-out Phase Vision.

Professor Huntley made the invention at the heart of the company in the mid 1990s. Today it is poised to become a world leader in optical metrology.

The journey began when Jon was a Reader at Loughborough, where his group in the Mechanical Engineering Department was collaborating with Luleå University of Technology in Sweden on research into full-field optical measurement techniques.

During one of his visits to Luleå, Professor Huntley and Luleå PhD student Henrik Saldner came up with a new idea.

"The development of computers around this time opened up a lot of opportunities for our research. We suddenly realised we could apply this power to an algorithm we'd come up with a couple of years earlier, and use it with an optical device called an interferometer to measure the shapes of objects without having to touch them," he said.

The research had the potential to measure complex shapes, quickly and very accurately.

The academics prepared a journal paper but waited to file an initial patent application before publishing, realising its commercial potential. "We approached about 30 companies but they were not prepared to devote the time and money to develop the product," said Jon.

Despite the huge leap forward represented by the Airbus collaboration, funding was still an issue, with cash flow always a concern.

In 2005, Professor Huntley and Dr Coggrave went all out to attract venture capital funding. They adopted a two-pronged approach, hoping to create two product ranges out of one piece of Intellectual Property (IP) – one devoted to industrial metrology and the other to face-recognition technology, a relatively new market that appeared to be opening up.

Hoping to raise £800,000 to fund both projects, they employed two consultants to write a business plan for each. This formed the basis of their pitch to various sources of funding.

But the venture capital dragons felt that trying to address two quite different markets at the same time indicated a lack of focus and that £800,000 was not enough money to fund both projects. They decided not to invest.

"They encouraged us to focus on our core strength and, while disappointing, it was good advice. We were also encouraged to find a Chief Executive Officer. Whilst they were happy that Russell and I could handle the technical side of things, the funders wanted to know that someone was driving this through from a commercial perspective."

Phase Vision's products – 3D measurement systems using a non-contact structured lighting technique – are now being marketed at trade shows and have been enthusiastically welcomed by manufacturers.

The impetus continued and Dr Russell Coggrave, a Research Associate at the time and now full-time Chief Technology Officer at Phase Vision, developed the first convincing prototype which embedded the technology into a computer system. This sparked new interest in the commercial market and won three awards which helped fund continuing research.

A breakthrough came when Airbus purchased the first Phase Vision system in 2003.

"Airbus has been a very supportive partner. One of their engineers has championed our idea within the company from the start and wanted to see it applied at Airbus. This was an important point in the story of the company, a pivotal point."

Airbus commissioned further systems and the alliance led to a three-year research and technology contract with the aircraft manufacturer worth a further £175,000.

Airbus also sponsored three PhD students to work on the research, allowing them to develop the technology in the direction which was most beneficial to the industry, steering its progress to address the company's needs.

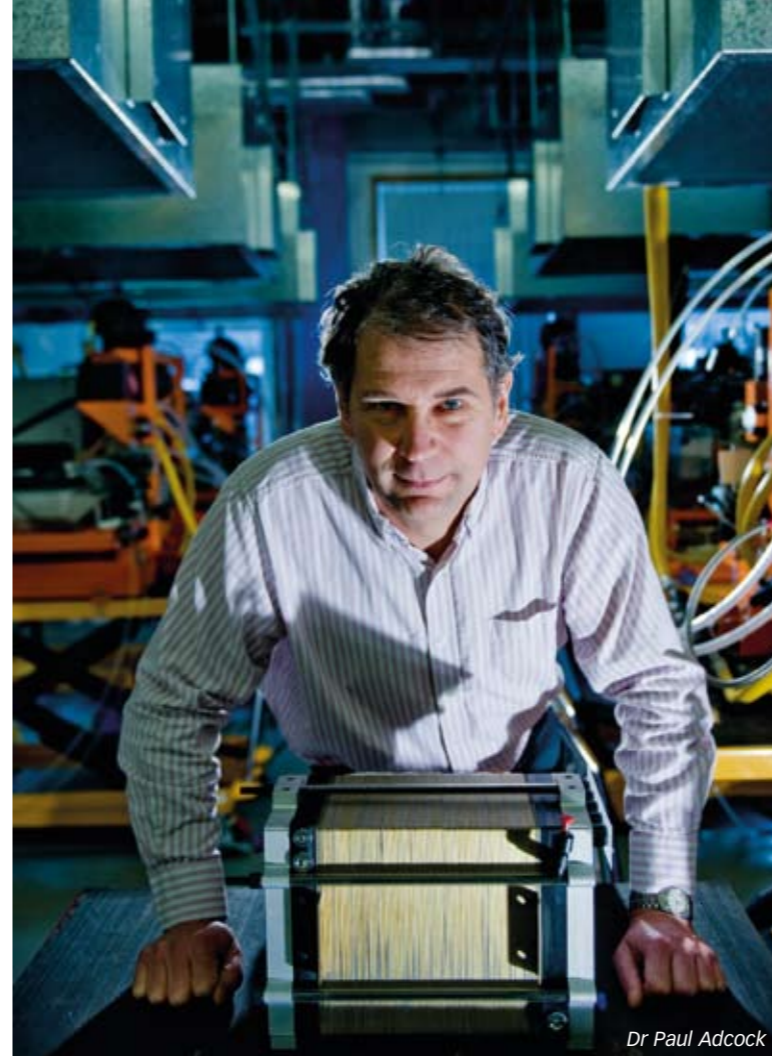
Ralph Weir, a veteran of several venture capital-backed start-ups, agreed to take on the CEO challenge and soon attracted investors. Faced with a choice of investment opportunities, the company decided on an offer of £1.1 million from investment company Octopus.

Phase Vision's products – 3D measurement systems using a non-contact structured lighting technique – are now being marketed at trade shows and have been enthusiastically welcomed by manufacturers.

They bring several unique advantages to a wide range of industries, including helping to reduce the drag of an aircraft's wing, generating enormous fuel savings for airlines. They can also help car bodies fit together better, enhancing quality and reducing costs, or optimise the manufacturing of jet engines, making them quieter and more efficient.

Professor Huntley chose to stay at the University and is now Phase Vision's Technical Director, working 30 days a year on a consultancy basis.

His tale of the ups and downs of commercialisation finds resonance in the history of another Loughborough University spin-out.



Dr Paul Adcock

Twenty five years ago Dr Paul Adcock was a lecturer in Transport Technology at Loughborough. Today he is Director of Research and Technology at Intelligent Energy, a global company providing clean energy solutions to international companies including Boeing, Suzuki and Peugeot.

His story began in the late 1980s, at Loughborough's Department of Aeronautical and Automotive Engineering, when Paul met with fellow academic Dr Philip Mitchell of the Chemistry Department.

Phil was working on battery technology and the two agreed to team up to investigate fuel cell technology. The team was strengthened by chemist Dr Jon Moore and technician Tony Newbold. By 1995, they had built a university research group involving a team of academics, research students and technicians.

Based on a scientific breakthrough discovered in 1836, a fuel cell is an electrochemical device that converts hydrogen fuel directly into electricity and heat without combustion. By the nature of its electrochemical reaction, a fuel cell can be more than twice as efficient as an internal combustion engine (approximately 60% compared to about 30%).

The UK's first kilowatt-level Polymer Electrolyte Membrane fuel cell stack was constructed by the Loughborough team in 1995, and the commercial implications of the work became apparent.

Stepping into the private sector wasn't an easy decision for Paul. "We wanted to commercialise – and we needed a source of consistent funding," he said.

Spin-out company Advanced Power Sources (APS) Ltd was formed, with the University retaining a stake in the company.

Paul found this gave his work a new, commercially-driven focus and the intellectual property and expertise at APS caught the eye of Intelligent Energy's Dr Harry Bradbury.

Negotiations began, with Dr Bradbury introducing a commercial attitude to business negotiations not previously experienced by some of the academics.

"It was a shock for the academics – business-focused people do things in a different way. Academics put a lot of value on the Intellectual Property but so much money has to go into developing that IP before you have a marketable product," said Paul.

Intelligent Energy secured a worldwide licence to exploit both APS and the University group's fuel cell related know-how, in addition to recruiting key staff.

Dr Bradbury became CEO of Intelligent Energy bringing with him valuable investment capital contacts.

Paul found that expertise in all areas – business, financial and fuel cell technology as well as academic – was as crucial to the company as the injections of cash.

"The University's Intellectual Property manager helped with the patents and negotiations and was very supportive of Intelligent Energy. The University's Innovation Centre also provided us with a smooth transition," he said.

The company has grown significantly; employing 180 people worldwide, and is a major player in the global low carbon energy industry.

Intelligent Energy has developed the first purpose-built hydrogen fuel cell motorbike and provided the system to Boeing, for the first fuel cell powered manned aircraft. The company is working with Airbus and has formed a joint venture company with Scottish & Southern Energy Plc.

Intelligent Energy is also leading a Technology Strategy Board part-funded programme, with partners Lotus Engineering, LTI Vehicles and TRW Conekt to introduce fuel cell hybrid Black Cabs to London in time for 2012.

All exciting, challenging and rewarding work. If he could turn back the clock, would Paul make the same leap from academia to private industry? Paul's answer is unequivocal and without hesitation:

"Absolutely. It's been a rollercoaster and extremely challenging but it is fulfilling to see concepts turning into commercially viable products, whilst retaining valuable and productive links with academia."

Want to know more?

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Academics commercialising their research at Loughborough are supported by the Enterprise Office's Intellectual Property team who offer expert advice on potential, patents, protection and funding.



the VOICE of the people

The power of social media as a communication tool is undeniable – and unstoppable. The likes of Facebook, Twitter and YouTube allow ordinary citizens a voice. They provide a platform for genuine, unedited viewpoints, plus instant access to a worldwide audience. Their appeal is obvious.

Professor of Media and Communication Studies at Loughborough University Liesbet van Zoonen is fascinated by the social media phenomenon, and its reach and relevance. She spoke to Alison Laing about her recent research project which explored religious and political practice on the popular social network, YouTube.

In March 2008, a Dutch parliamentarian called Geert Wilders released a highly controversial 16-minute anti-Islam film. He called it Fitna. Predictably, the video caused total outrage on a global scale. Violent protests, death threats and fierce public debate soon followed. Government spokespeople, political figures, religious leaders and commentators, all queued up to express their views on the furore.

However, mainstream media coverage of the Fitna controversy offered little outlet for ordinary citizens, including Muslims, to contribute to the debate. As a reaction to this, a mass video protest was staged by young people from across the world, determined to have a voice. They would not be ignored,

and began uploading their views onto social media websites such as YouTube.

It was these protest videos which provided the research material for Professor van Zoonen and her colleagues Sabina Mihelj and Farida Vis. The £81,000-project was jointly funded by the Arts and Humanities Research Council (AHRC) and Economic and Social Research Council (ESRC) as part of the Religion and Society Programme.

Between 2009 and 2010 the team examined some 700 videos posted on YouTube in response to the Fitna film. It gave a unique insight into the particular traits and interests of both the video contributors, and their audiences.

Professor van Zoonen said: “Following the release of the film, all the usual suspects – the politicians, the experts – spoke out about the issues, but very rarely did you get the average Muslim to say what they think, and share their experiences. They were absent from the debate.

“Our aim with the Fitna project was to find out what was happening underneath the mainstream mass media. We studied the often-neglected social media activity, and what we found was fascinating. There was a whole layer of protest going on. People from across the world were using YouTube to make their voices on the Fitna debate heard.”

She added: “YouTube is an attractive medium for young people. Here they can create something that truly represents their own voice without anybody else mediating it, and that’s a big appeal for young people who want control. It’s their space.”

The research team found YouTube to be in constant flux and struggled to keep track of the video ‘traffic’. However, with the help of Mike Thelwall, Professor of Information Science based at Wolverhampton University, they developed a new tailor-made, electronic tool for capturing and analysing the videos. It enabled them to analyse and categorise over 700 posts, quickly and accurately.

She added: “This was not the stereotypical portrayal of Muslim women as victims of oppression that we get from some Western media. These women were clearly independent agents, in control of their lives, with strong opinions that they were not afraid to express.”

Professor van Zoonen and her researchers were struck by the desire of the posters to connect. Most displayed an open and cosmopolitan attitude, and rarely were the videos violent or antagonistic. Many ‘cut and mix’ videos were used as a means for satire and parody.

Professor van Zoonen said: “What I found interesting was the creativity and the sense of humour that sprung from many of these videos, which made the whole thing a bit lighter. The public debate about these matters is very often dark and black. You see some of that repeated of course, but you also see a lot of mockery and irony. I thought that was quite liberating.”

In conclusion, the research team noted that the great majority of communications surrounding Fitna (some 85 percent), consisted of reactions without interactions. They were one-off ‘acts of citizenship’, of people getting things ‘off their chest’. They were not followed up by subsequent discussion or other videos.

By far the most common YouTube reaction for Muslims was to upload copies of videos that expressed their own understanding of Islam as a peaceful religion – in direct contrast to the negative picture drawn by Wilders.

The researchers discovered four main types of video response to Fitna. There were Muslims expressing their own understanding of Islam as a peaceful religion; organised sets of ‘sorry-videos’ apologising for Wilders; ‘cut and mix videos’ satirising and parodying Wilders; and popular stand-up comedy responses.

By far the most common YouTube reaction for Muslims was to upload copies of videos that expressed their own understanding of Islam as a peaceful religion – in direct contrast to the negative picture drawn by Wilders.

Professor van Zoonen said: “In one way, our data showed a very traditional picture in that 82 percent of the videos posted came from men, and only a small minority were posted by women. But within these particular posts, we found some fascinating things.

“Young, actively Muslim women from around the world were amongst those responding on YouTube, including an exceptional group of young, articulate Egyptian women. And while we would see Muslim women wearing headscarves and other types of traditional Islamic clothing, they held high-profile jobs, such as judges, lawyers and economists.”

Professor van Zoonen said: “What YouTube offers is a kind of ‘big square’ or arena, for people to demonstrate on. That space for demonstration is an incredibly important one, especially since it’s a global space. But we found that very few take the opportunity to expand this platform into dialogue. The different positions don’t interact or exchange their views, for the most part. It was a case of, ‘Here are my views, you can take it or leave it, but at least I’m out there.’”

She added: “We showed the Fitna film to different groups of Dutch young people and the consensus was that the more informed about the debate viewers were, the less susceptible they were to Fitna’s Islamophobic message, suggesting that silence around Islamophobia is counterproductive.”

Want to know more?

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Download for free the electronic tool for capturing and analysing YouTube video data developed: lexiurl.wlv.ac.uk/searcher/youtube.html and read more about it here: www.religionandsociety.org.uk/ and search for ‘Loughborough’



a question of
sport

It's an established fact that girls' physical activity levels and their participation in sport are low and that they decline as they go through their teenage years. Many assumptions are made about the pressures on these teenagers, but just what is it that drives them away from sport or physical activity?

A team of researchers from the Institute of Youth Sport, based in the School of Sport, Exercise and Health Sciences, has been looking at how and when girls decide to turn their backs on an active lifestyle and, crucially, why it happens. Debbie Hughes finds out more.

At the start of the year, the Women's Sport and Fitness Foundation (WSFF), in conjunction with Sport England, published the findings from the latest Active People Survey. It revealed that women still lag significantly behind men when it comes to participation in sport, and around 80 percent of them don't do enough physical activity to benefit their health.

The WSFF wanted to know why this phenomenon endures and so they commissioned a team of researchers from Loughborough to look into the issue.

The study, led by Drs Trish Gorely and Rachel Sandford from the University's Institute of Youth Sport, aimed to establish when and why girls turn away from an active lifestyle. Using surveys and focus group studies, the research, which was funded by the Big Lottery, examined the relationship that girls aged eight to 16 have with sport and physical activity, the factors which affect their participation and how these change as girls get older.

"We found that as boys and girls progress through school, there are definite changes in the time spent being physically active," Trish said. "In Year Four, at ages eight and nine, boys and girls do similar amounts of physical activity, but by the time they are in Year Six girls are doing less than boys. And we found that children in Year Seven did more activity than Year Nine pupils, regardless of gender, but the decrease between the year groups was greater with girls."

"It appears there are a number of reasons behind this. One of the most interesting to emerge from the study was that girls of any age are more likely than boys to have rules set by their families as to where and when they can play outside. It was also apparent that support from their parents tends to decrease as the child gets older."

As well as surveying young people, the researchers questioned primary and secondary school teachers, to determine their views of young people's attitudes towards sport and physical activity. Both sets of teachers suggested that a lack of parental support for children attending extra-curricular activities and transport issues affected participation. The secondary school teachers also noted that a clash with other commitments, such as caring for siblings, could be a contributing factor in the decline.



Activities solely for girls could be the way forward, according to both the primary and secondary school teachers.

"The teachers believed that increasing the number of girl-only activities and competitions, as well as offering alternative sports like street dance, could be a way to encourage older girls to continue with sport, and that extending the lunch period to enable sport participation could solve the after school dilemma," says Trish.

This finding was endorsed by some of the girls in the focus groups.

They suggested that girls-only groups or teams might encourage them to take up sport, and that they would like more choice of alternative sports, such as skateboarding, kick boxing or ice-skating.

"We discussed the kinds of activities they took part in, both active and inactive, and looked at what would motivate them to take up more physical activity. They suggested that girls-only groups or teams might encourage them to take up sport, and that they would like more choice of alternative sports, such as skateboarding, kick boxing or ice-skating.

Why gymnasts tumble away

When British Gymnastics wanted to find out more about why gymnasts decided to leave the sport, they turned to Loughborough's Institute of Youth Sport (IYS).

After visiting clubs that were successfully retaining both recreational and elite gymnasts, Drs Carolynne Mason and Mary Nevill from the IYS identified several important contributory factors that underpinned retention.

"Clubs need to ensure that gymnasts enjoy the time they spend at the clubs," explains Dr Mason. "They need to provide opportunities for all their gymnasts to develop and showcase their skills, rather than just the 'elite'. There's a direct link between retention, progression and enjoyment, regardless of the level of performance."

Having good relationships with coaches and other gymnasts and having visible adult and young role models were also found to be crucial, as were opportunities for teens in particular to benefit from new challenges, such as coaching younger girls and being involved in club management decisions. As one coach commented: "These girls are starting to feel like adults and they want to be treated as adults."

"They also highlighted a number of other issues that they saw as contributory factors that put them off taking part – boys watching them and making fun of them, the style of PE kit, getting hurt, sweating, issues with their body image and the fact that sport messed up their hair could all be reasons why girls lose interest as they get older. What wasn't clear, however, is why these perceptions develop in some young people and not in others."

In the focus group session few of the young people identified issues associated with the school, teachers or PE as putting them off from participating in sport. The responses from the survey, however, appeared to contradict this.

"When we asked how girls could be encouraged to participate in sport, many of the suggestions related to the school and PE sessions. It's interesting that young girls don't necessarily see PE as being the problem, but they do cite it as a solution. It's an area that needs more clarification and could be explored as part of further research."

Trish also believes that they need to examine in more detail the religious, cultural and family influences on participation.

"We saw from the responses that, for some young people, their culture, religion or familial responsibilities were perceived as a barrier to participating in physical activity – as they head into their teens, for example, there is sometimes increased expectation from their families that the young people will help out more at home with household chores or caring for younger siblings."

"We know that girls' levels of sport and activity participation begin to tail off by the age of 10. The survey and the focus groups have identified issues such as parental support, 'identity' and social factors as contributing factors in the decline in girls' physical activity as they progress through the school system."

"Now the WSFF, with the help of the IYS, is keen to identify practical ways in which schools, families and communities may be able to ease such barriers and provide young girls with more opportunity to take part in sport and physical activity."

Want to know more?

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Visit: The Institute of Youth Sport at www.lboro.ac.uk/research/groups/institutes.html and the Women's Sport and Fitness Foundation at wsff.org.uk/



who wants to be a millionaire?

With their phrases “You’re hired!” and “I want to make you an offer”, the hugely popular reality TV show *The Apprentice* and the equally popular *Dragons’ Den* have given us an insight into the world of the young entrepreneur and their relentless drive to succeed. Debbie Hughes meets James Hickie, who’s researched this growing phenomenon.

Last summer Universities Minister David Willetts announced that students should cast-off ‘old-fashioned’ definitions of what constitutes a graduate career and that they shouldn’t be afraid to start their own companies. But how easy is it for a young person to become the next Richard Branson. And is the entrepreneurial spirit something that manifests itself at a very young age or something that develops once we leave the education system and enter the world of work?

Research conducted by James Hickie from Loughborough’s Department of Social Sciences is the first of its kind to look in-depth at how young entrepreneurs – which he has defined as someone under 30 years old, turning over £1 million and employing five or more people – are able to build growth businesses.

James first became interested in the way young entrepreneurs operated when, as an undergraduate attending the Cambridge Entrepreneurs student society, he saw how young people were able to grasp the concepts of business.

“There was an annual business plan competition and some of the young people entering were able to build substantial businesses and yet had had little work experience,” he says.

“My research looks at the role of the family in a young entrepreneur’s life, what entrepreneurial skills and experiences they utilised, and if they conducted any informal ventures at a young age, to see if this had had an impact on their early success.”

Fifteen young entrepreneurs were studied as part of the research project which found that half of the young people had at least one entrepreneurial parent, while a third had another family member who they believed had been influential in their decision to become an entrepreneur.

“It was apparent that the entrepreneurial parents did not generally advise their children to become entrepreneurs, but the young people developed similar behaviours, attitudes and values to their parents and ‘inherited’ that type of career,” explains James. “Financial support was not apparent from parents, but we did find evidence of support in the way of business advice, the use of the parents’ networks and parental resources such as IT equipment, as well as work experience in the family business. Although interestingly, all of the young entrepreneurs set up their own independent businesses rather than simply taking on the family business.”

The study identified that, on the whole, the entrepreneurs placed greater value on their experiential learning than their formal education achievements when explaining their entrepreneurial success. All participants were educated to A level standard with just over half attending university. Many chose subjects at A level and degree level which were relevant to business or their chosen sector.

Rather interestingly, nearly every participant recalled being involved in entrepreneurial activity by the age 14 – one ran a web design business at 13 years old; another sold ‘push pops’ in the playground for a profit after buying them in bulk; and another ran an internet business.”

As they progressed into their first main ventures, James says that the majority made use of a ‘mentor’ – someone with considerable experience as an entrepreneur or in corporate business. “We shouldn’t underestimate the role these mentors have in helping the young entrepreneurs on their pathway to success. Over half eventually brought these mentors into their businesses as non-executive directors,” James says.

“It has become apparent from the results of the study that there is quite a strong network of mentoring in place for the young start-ups, with them going on to offer their advice and wisdom down the line.”

The entrepreneurs believed that starting their ventures at a younger age was an advantage, as they had little financial commitment in the way of families or mortgages and therefore very little risk was incurred. The participants also felt they had the good health and energy to support them through the early demanding stages of launching a business.

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“The only notable difference was that many of those who went to university were able to grow their business more quickly at the beginning, probably owing to graduate level work experience they had undertaken. However, it did not always follow that they were able to build larger businesses,” says James.

Work experience was a key theme running throughout the research, with many of the participants having some sort of low level experience, for example restaurant or shop work. Interestingly though some viewed working for other people as a negative experience; the study highlighted a feeling of restriction, and the lack of autonomy when working for someone else did not sit well with the participants.

“What the entrepreneurs did find helpful as a learning curve were the informal ventures they have taken on themselves, either at primary school or during their early teens,” says James. “Thirteen of the participants had run some sort of informal venture on a small scale and it was these experiences that they say helped to develop skills, such as selling and negotiation which were essential to set up their first main ventures.

“The sacrifice of leisure time was sometimes seen as a negative,” adds James. “However, the flip side to this was that after four or five years the hard work paid off, with more flexibility and financial benefits available being on offer than if they had been in someone else’s employment.”

And it seems there are no regrets, with all of the participants stating they wouldn’t want to work for someone else. Nor did they want to sell up and retire early.

“Some are now contemplating selling their business so they can concentrate on developing a new, and potentially larger, venture,” says James. “At the time of their interviews, many had started their second or third ventures which demonstrates how successful entrepreneurs often develop their skills and knowledge while running informal ventures and their first main venture before going on to build their biggest business.”

Want to know more?

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the view round up

A probiotic a day helps keep colds at bay

Researchers at Loughborough have found that a simple, daily probiotic might help prevent athletes catching colds during their training and competition.

The research indicated that daily consumption of the probiotic drink Yakult is effective in reducing incidences of upper respiratory tract infections in athletes.

Athletes performing prolonged intensive exercise, or with heavy schedules of training and competition, catch more colds because the associated physical and mental stress affects their immune system.

Salivary immunoglobulin A (IgA) is important in preventing viral infections – particularly in the respiratory tract – and levels of this antibody can fall during periods of intensive exercise.

Endurance athletes involved in regular intensive sports training such as cycling, triathlon, middle and long distance running or swimming were divided into two groups. Over a period of 16 weeks, one group drank Yakult every day and a matching group had placebo drinks.

At the end of the trial, a lower proportion of probiotic drinkers (66 percent) experienced an episode of the common cold compared to those drinking a placebo (90 percent). The average number of cold episodes was also 50 percent lower in the probiotic drinkers.

The athletes drinking the probiotic also experienced significantly fewer days with the gastrointestinal symptoms that are frequently suffered by triathletes and runners.

Professor Michael Gleeson, from the School of Sport, Exercise and Health Sciences, led the study. He commented: "There is relatively little evidence for the effectiveness of so-called dietary immunostimulants in the athletic population but this study suggests that a probiotic product may help to reduce the risk of infection. Athletes hate the thought of picking up colds as even minor ailments can impair their training and performance or even stop them from competing."



Sustainable housing project 'SHINE's at new development

A pioneering sustainable social housing project in Leicestershire is currently being rolled out by a team of experts from the University.

The project is designed to support Charnwood Borough Council in attaining forthcoming ultra energy efficient standards for new homes, making them compliant with the Government's 'Code for Sustainable Homes' standard.

Nine sustainable homes are being built altogether and staff and students from Loughborough's Centre for Renewable Energy Systems Technology (CREST) are working closely with the Council, the architect and the main contractor to ensure that the new homes deliver real low carbon performance in practice.

The cooperation is part of an East Midlands Development Agency-funded project called SHINE (Sustainable Homes

Innovation Network of Excellence). The University has led the project since 2008, in conjunction with partners in the construction industry, local government and academia.

"What we are aiming to achieve is real-life low carbon dwellings that meet the comfort needs of occupants in practice, not simply by design," explains project leader Dr Paul Rowley of CREST. "We are keen to support sustainability initiatives in our own community wherever we can and this is the first fully-evaluated and monitored social housing project of its kind in Leicestershire."

The team are applying the approach to a number of new affordable homes across the borough, with CO₂ levels, humidity, temperature and energy equipment performance being measured to give a more holistic picture of how these sustainable properties actually perform in everyday life.

Ground breaking fabric antenna set to be developed

Loughborough is leading a three-year collaborative project with Nottingham Trent University to develop a new type of antenna that can overcome problems currently encountered by the military, search and rescue teams and the emergency services.

The groundbreaking project aims to produce a fabric antenna and associated electronics, which could be integrated into a wearer's uniform. Traditional monopole antennas are bulky, heavy and prone to breaking. They can also attract unwanted attention during covert and security operations. This new design would be small and lightweight, flexible and weather resistant.

Professor Yiannis Vardaxoglou from Loughborough is leading the project. "We are aiming to produce a viable demonstrator with our prototype fabric antenna which can be integrated into clothing," he said.

"Initially, the team will be focusing on the radio communications applications ensuring the antenna can be manufactured in a cost effective way. We hope to integrate it into uniforms perhaps as part of an emblem or logo, and it will need to be capable of operating at megahertz frequencies."

Nottingham Trent University will be contributing specialist knowledge of textile materials properties, performance and design.

As part of the research the two universities will be accessing the expertise of several industrial partners who are interested in the manufacturing and commercial potential of this technology. Antrum Ltd, experts in the commercialisation of wireless communications research, will be exploring new applications and market technology. Hi-tech company Advanced Therapeutic Materials will be providing further advice on innovative fabrics, including conductive yarns and Defence Marine Systems Ltd will be providing insights into applications in the defence and search and rescue sector.

The £400,000 project is being funded by a grant from the Innovative Electronics Manufacturing Research Centre (IEMRC).



Young carers' mental wellbeing compromised by long-term caring

The longer children take on caring responsibilities in the home, the more damaging the effects of caring can be for a child's emotional and mental wellbeing, according to a study conducted by the Manchester Carers Forum (MCF) in conjunction with Loughborough University's Young Carers Research Group (YCRG).

A young carer is a child or young person under the age of 18 who helps to provide care for a sick or disabled adult in the home. It is estimated that there may be as many as 700,000 young carers in the UK.

As part of their study, the researchers conducted in-depth interviews with fifty young carers in Manchester. They found that some young carers develop coping strategies to deal with the psychological effects of caring, but others, in particular those children who have been caring for long periods of time, for example two years or more, do not cope well.

Dr Jo Aldridge of YCRG said: "Long-term and disproportionate caring activity among children adversely affects their health and wellbeing. They are less optimistic about the future and have lower self esteem. We also know from recent research that there are far more young carers than was previously estimated, which means more children are likely to be adversely affected by long-term caring responsibilities."

The study highlighted that some young carers who are not providing care for prolonged periods cope better with the demands of caring. Females are also more likely than males to be adversely affected by caring, and all carers in the 14 to 17 age group who have been caring for two years or more have lower self esteem and less interest in new things and in developing relationships with others.

"Our findings clearly show that children should not be caring over long periods of time without help and support and that it is essential to intervene early in family life in order to prevent children taking on inappropriate or long-term caring responsibilities," said Dave Williams, MCF Project Manager.

"Whilst the research indicates resilience on the part of young carers, we must ensure that disproportionate levels of caring responsibility do not hinder the life chances of our young people."

The study was funded by the Manchester Children and Adolescent Mental Health Services.

Helping to diagnose dyscalculia

A mathematics support tutor at Loughborough has developed a special tool to give adults an indication of whether they are at risk of dyscalculia, a hidden condition resulting in poor numeracy skills.

It is estimated that between three and six percent of adults could have dyscalculia, but many remain unidentified as screening is currently only available in children. Dyscalculics face challenges each day with tasks such as household budgeting, checking change or helping children with homework.

Clare Trott from the University's Mathematics Education Centre has been working on the new tool for a number of years, in conjunction with her colleague Nigel Beacham. Known as DisCalculiUM, the system is the UK's first online screener, which can identify adults displaying signs of dyscalculia, enabling them to seek further help.

Through a website and manual, the system creates a profile of the user to highlight, for instance, their understanding and application of numbers.

"Although up to 60 percent of people with dyslexia have problems with maths, very little research has focused solely on dyscalculia and how it can be overcome," explains Clare.

"Recent advances in neuroscience have increased our understanding of both an individual's numerical and mathematical processing. However, awareness of dyscalculia as a disability is still very low. DysCalculiUM will enable adults all over the UK to access the support they need."

With the help of the University's Enterprise Office, the project is now being rolled out commercially through assistive technology specialist iansyst Ltd and public sector service provider Tribal.



Loughborough professor appointed as Labour peer



Ruth Lister CBE, Emeritus Professor of Social Policy at Loughborough, has been appointed as a member of the House of Lords.

Ruth Lister has been Emeritus Professor of Social Policy at Loughborough since October last year, having joined the University in 1994. Prior to that she was Professor and Head of the Department of Applied Social Studies at the University of Bradford for six years, and between 1971 and 1987 worked for the Child Poverty Action Group (CPAG), a national campaigning charity, spending the last eight years as its director.

Professor Lister was awarded the CBE in 1999 and elected as one of the founding Academicians of the Academy of Social Sciences the same year. She was instrumental in the award of Loughborough University's fifth Queen's Anniversary Prize for Higher and Further Education in 2005 for its contribution to social policy.

In 2009 she was elected a Fellow of the British Academy and this year received a life-time achievement award from the Social Policy Association. She was also a member of the National Equality Panel, established by the then Minister for Women and Equality, Harriet Harman.

"I am delighted to have been appointed as a member of the House of Lords," said Professor Lister. "As a Peer I will be able to raise still further the profile of social policy and social justice issues in the UK."

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