

# 2014 Annual Review

Snapshots  
of 2014

6

Research with  
life-changing  
impact

10

Bringing the  
UCLan experience  
to life

22

Career preparation  
for life

32

A breeding  
ground for  
innovation

40

A global  
vision with  
student-centred  
learning

46

Graduation and  
Honorary Awards

52

UCLan facts  
and figures

56

*UCLan Honorary Fellow and Olympic athlete Helen Clitheroe (pictured centre) recently led hundreds of competitors at Preston's first ever 'Color Fun' run which took place at the UCLan Sports Arena.*

# Contents

**It gives me great pleasure to introduce the University of Central Lancashire's Annual Review for 2014. It was a year filled with individual and collective achievements, and a year in which we looked forward - through our visionary Campus Masterplan - at how the University's estate will evolve over the coming decade.**

In the immediate future it is clear to me that government policy in relation to future higher education policy and funding will continue to be challenging. We will also see more competition, locally, nationally and internationally and, as I write this introduction with the general election now decided, we need to be ready to meet these challenges head on.

Despite the expected volatility in the years to come I am convinced we are well placed and in a position of strength. Our approach to providing an inspirational student experience, enabling people, irrespective of their backgrounds, to fulfil their potential and meet their life and career goals, will remain a key pillar of our future strategy.

As one of the UK's most popular universities in terms of student numbers, it's a blueprint that we are determined to pursue with renewed vigour.

In the coming years I see UCLan becoming ever more responsive to market changes, rapidly evolving our course portfolio to suit the needs of employers at home while seizing opportunities in the large and growing international higher education market. Providing a world-class educational experience for all our students, both at home and abroad, is our shared vision.

A clear example of this strategy in action is our commitment to grow our portfolio of engineering-related courses, coupled with the development of a £30 million+



# Foreword

Engineering Innovation Centre (EIC), featured in this Review. Our long term strategy for engineering is to increase the number of young people, particularly women, choosing to take up the subject at UCLan. We will provide a rich source of new graduates that reflect the economic priorities of the North West, the UK and indeed the global economy.

Our plans are already paying off with applications for 2015 entry having seen a surge, particularly in science and engineering-related subjects. Pleasingly, many of the new courses we have introduced, such as aerospace engineering, are showing excellent levels of interest.

Our strength in devising programmes that fulfil global skills needs is matched through an established research culture based on quality and excellence; one which is not afraid to tackle real-world issues and problems.

In 2014 the results of the national Research Excellence Framework (REF) testified to the University's progress in research over the past five years.

Overall nearly 49 percent of the research we submitted was assessed as being of 'world-leading' (4\*) or 'internationally excellent' (3\*) quality, an increase from 27 percent on the University's submission to the previous review in 2008.

For the first time, REF measured the impact of research on society and our results show the real difference research at UCLan is making to improving people's lives across the globe. Nearly 50 percent of our submissions were classified as having outstanding or very considerable impact in terms of reach and significance outside of academia (in the top 4\* and 3\* categories).

In short, UCLan has clearly established itself as a University with a global reach; it has come a long way in a short space of time and we are

## *Through our Campus Masterplan we aim to create a world-class educational environment which will benefit the University, the City of Preston, and the economy of the North West.*

proud of that fact. A healthy research culture is a vital component of any university that wishes to build a strong academic reputation both at home and abroad. Through initiatives like our EIC development, research can deliver significant income streams, help to inform our academic curriculum at all levels and contribute to UCLan's overall attractiveness among new students and staff.

I am very conscious that the continuing success we envisage will only be possible with the buy-in of staff to a collective UCLan vision. In this area too there is much to be optimistic about. In 2014, following an assessment by Investors in People (IIP), UCLan achieved the coveted 'gold' standard, which is the highest available.

The award considers all aspects of an organisation's employment practice as well as capturing a wide cross section of employee views. Out of all the organisations assessed by IIP only seven percent nationally actually achieved the gold standard and only a handful of those are universities.

What filled me with real optimism about the IIP report was the highlighting of a shared core value across the institution to put the needs of our students at the centre of everything we do, as well as portraying an organisation committed to being the very best it can be. This award also highlights to me how fortunate we are at UCLan to have a staff body which is enthusiastic, dedicated and, of course, expert in a wide variety of fields. In the future I am determined to

do more to recognise staff attributes and achievements on a regular basis.

As you will know our previous Vice-Chancellor Professor Gerry Kelleher left the University earlier this year and I was appointed as his Interim replacement. As a University we were very sorry to see Gerry leave. He was instrumental in driving forward our Campus Masterplan vision, embedding our new and highly successful Foundation Entry degree programme across the University and he leaves UCLan in good order with a strong senior leadership team and academic structure in place.

Finally, a further word on our Campus Masterplan; a £200 million investment which paints a vivid picture of what we hope to achieve for the University and the city over the next ten years. It is a hugely exciting proposal and reflects the ambition of the University Board and Directorate to build on the educational ethos enshrined by our forebears who established the Institution for the Diffusion of Knowledge in 1828. Our motto: 'Ex solo ad solem', or in translation, 'From the Earth to the Sun' is as relevant today as it was then, and through our Campus Masterplan we aim to create a world-class educational environment which will benefit the University, the City of Preston, and the economy of the North West. Our plans are being informed by the local, regional, business and civic communities, with whom we continue to build close relationships. Importantly, input from our

Students' Union (SU) is also playing a key role in finalising our development plans. We have a great working relationship with the SU and I am looking forward to building on this in the coming months and years.

Our visionary plans have been enthusiastically endorsed and supported by the University Board, led by our new Chair David Taylor, and I believe there is good reason to be optimistic and excited about our future.

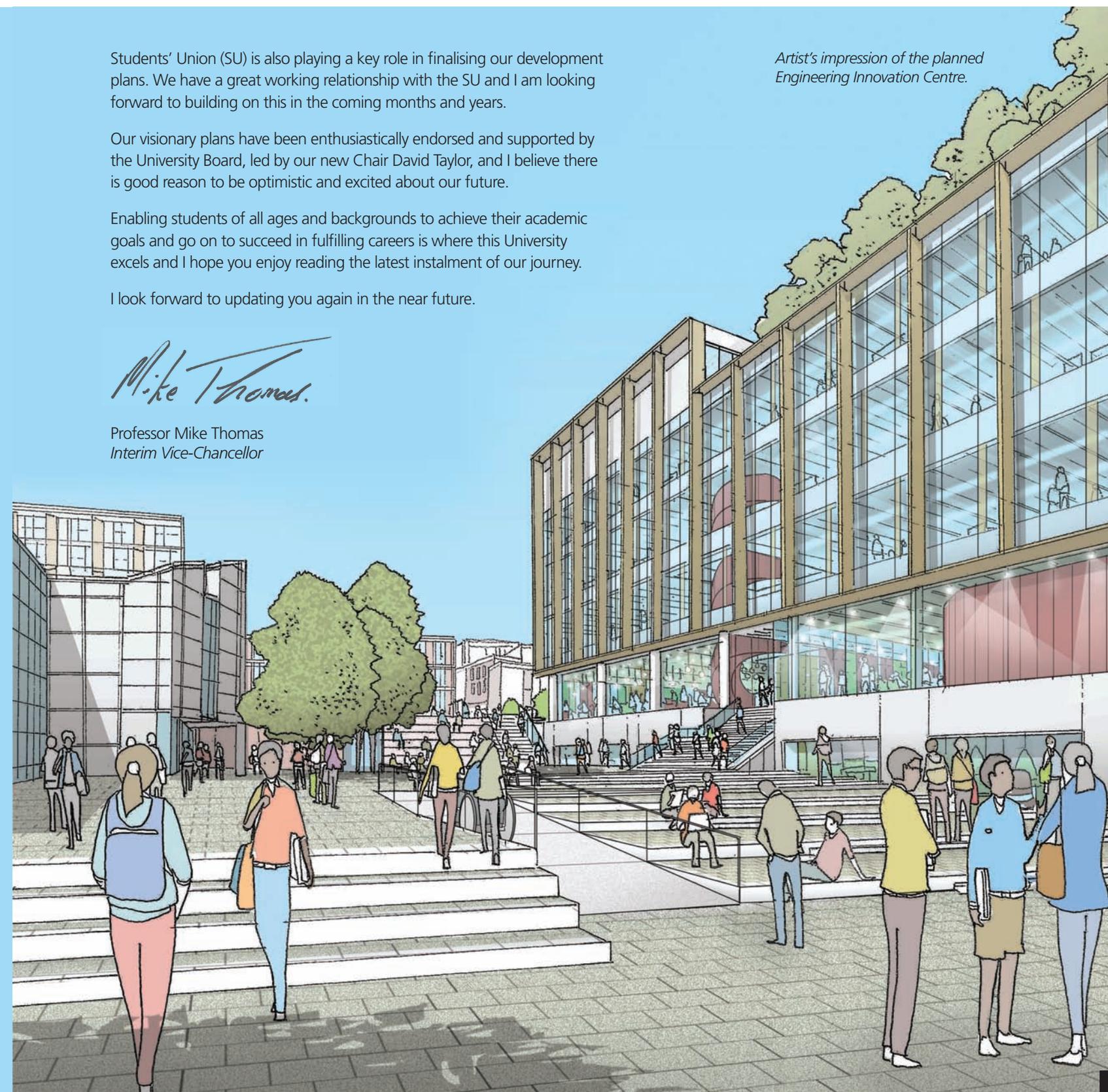
Enabling students of all ages and backgrounds to achieve their academic goals and go on to succeed in fulfilling careers is where this University excels and I hope you enjoy reading the latest instalment of our journey.

I look forward to updating you again in the near future.



Professor Mike Thomas  
Interim Vice-Chancellor

*Artist's impression of the planned Engineering Innovation Centre.*



# Snapshots of 2014



## January

### Community cohesion tops agenda

Community cohesion tops the agenda at a special Audience with Colin Parry OBE. The talk, at the Burnley Campus, involves students from UCLan's undergraduate programmes along with students from Pakistan's University of Gujrat, who join in via the Centre for Volunteering and Community Leadership's innovative new 'live' online classroom. Colin Parry, whose son Tim died in the 1993 Warrington bombings, discusses the importance of developing community cohesion at a young age.<sup>1</sup>

### BBC Stargazing Live features UCLan Sun project

A project that placed Preston at the centre of the solar system features in the BBC programme Stargazing Live after it caught the attention of the show's producers. UCLan's Sun at Night installation took one year's worth of footage of the Sun and condensed it into a 30 minute film that slowly rotated around a large cylindrical projection screen accompanied by an appropriately deep and atmospheric soundtrack. The installation is showcased at Royal Holloway, University of London, as part of the BBC's special week.<sup>2</sup>

### Honorary Professor made a Dame

A UCLan Honorary Professor is made a Dame in the Queen's New Year's Honours List. Professor Sue Bailey, who received an OBE in 2002, is given the award for her services to psychiatry and for voluntary service to people with mental health conditions. She is a member of the Connect Centre for International Research on Interpersonal Violence and Harm and is reviewing interventions related to domestic abuse in children and young people.<sup>3</sup>

## February

### Arduous subarctic conditions for students' expedition

Outdoor leadership students plan to swap the lecture theatre for the great outdoors of Canada as part of their undergraduate degree studies. Five second year students will tackle 16 days of -40C weather in Kluane National Park to test snow shoes and collect data for their dissertations. The group will carry and drag their basic survival equipment, including camping gear and dehydrated food supplies, in rucksacks and on sleds so are preparing by dragging large tyres along Preston's Guild Wheel.<sup>4</sup>

### Historian brings temperance memories to life

The popularity of an exhibition charting the temperance movement prompts a UCLan historian to write a book sharing more stories of those who were teetotal. Dr Annemarie McAllister produces 'The Demon Drink? Temperance and the Working Class' after creating the exhibition at the People's History Museum. The book traces the origins of the movement, with details about the buildings, organisations, public events and entertainments which formed an important part of working people's lives in the past two centuries.<sup>5</sup>

### UAV project shortlisted as top design of 2013

The Unmanned Aerial Vehicles (UAV) search and rescue project created by UCLan, called AeroSee: Drones for Good, is named as one of the top designs of 2013. As part of the Design Museum's celebration of 'Best in Design' over the past year, the UAV project is showcased at the London-based museum. It is one of 80 design concepts chosen to appear.<sup>6</sup>

## March

### UCLan welcomes Blue Peter for Sport Relief

Three Blue Peter presenters test their sporting prowess at the UCLan Sports Arena for a Sport Relief challenge. Presenters Radzi Chinyanganya, Barney Harwood and Lindsey Russell hop on special home-made bikes and go head-to-head in a three mile race at the 1.5km cycle track. Local primary schoolchildren designed and built their own two, three and four wheel bikes and came to cheer the presenters throughout the race.<sup>7</sup>

### Standing ovation for singing stars

Local youngsters hit the high notes to give music fans a real treat when they join forces with UCLan's award-winning Chamber Choir. Students from Fulwood, Penwortham and the Fylde areas harmonise together with the 28 members of the UCLan Chamber Choir for the sell-out charity fundraiser. The four choirs perform individually before combining to perform Keane's Somewhere Only We Know.<sup>8</sup>

### UCLan magazine journalism scores unique hat-trick

For the third year running UCLan scoop the Oscars of the magazine industry as a graduate wins the coveted prize at the Professional Publishers Association awards. Andy Biddulph collects The Most Promising Student (undergraduate) award for the work he produced while studying on the BA (Hons) Journalism magazine course. He graduated last year and now works as a freelance music journalist for Rock Sound and a range of other titles.<sup>9</sup>

## April

### UCLan unveils eco-challenge car ambition

Students at UCLan compete in a national competition to design, build and race a single seat electric car. Mechanical and electronic engineering students enter the Greenpower challenge IET Formula 24+ competition where students aged 16 to 25 manufacture a car using just a standard motor and one set of batteries. The scope of the competition is to build the most efficient electric car to travel for 60 minutes in the quickest time possible.<sup>10</sup>

### UCLan launches African Atlantic studies institute

The University launches a research institute to work with leading UK organisations to promote African Atlantic studies. The Institute for Black Atlantic Research brings together UCLan research in black British art and culture, African Atlantic literature and culture, curatorial practice in African American and African art, the literature and cultures of African rivers and black Atlantic drama and performance.<sup>11</sup>

### UCLan and Hebei Universities announces new School of Media, Communication and Creative Industries

UCLan announces exciting plans to create a groundbreaking partnership with Hebei University in Baoding, China. The new partnership creates the Hebei/UCLan School of Media, Communication and Creative Industries, the first British partnership of this type in Hebei province. The School will recruit 200 students per year for the four-year duration of the programme and the first cohort enrolls in September.<sup>12</sup>

## May

### Preston's sci-fi and comic fans come out in force

Fans of sci-fi and comics come out in force to support Preston's first 'Comic-Con' event. The free comic/fantasy/sci-fi convention is 'a celebration of everything nerdy' and sees the Harris Library awash with 'cosplay' – meaning fans are dressed as their favourite superheroes and sci-fi characters. Talk Nerdy To Me is the brainchild of two English literature and education undergraduates who are tasked with attracting more young adults through the doors of the city's main library.<sup>13</sup>

### Time for organisations to address the problem of workplace conflict

A four-year programme of research conducted by UCLan's Institute for Research into Organisations, Work and Employment finds developing proactive ways of managing conflict between staff should be a central part of organisational strategy. The Advisory, Conciliation and Arbitration Service-funded research involves detailed case studies of five UK organisations and the findings represent a major contribution to understanding the challenges facing organisations in managing difficult issues in the workplace.<sup>14</sup>

### UCLan invites public to first Lancashire Living with Diabetes Day

People from all over the region are invited to UCLan to learn more about living with diabetes and how to best cope with it. UCLan has teamed up with the Diabetes Research & Wellness Foundation for the first Living with Diabetes Day. Specialist diabetes teams from Lancashire Care NHS Foundation Trust and Lancashire Teaching Hospitals NHS Foundation Trust also take part.<sup>15</sup>

## June

### National recognition for UCLan academic

A UCLan academic is awarded a National Teaching Fellowship, the most prestigious prize for excellence in higher education teaching and support for learning. Dr Ruth Pilkington is one of only 55 higher education staff to be awarded a Fellowship from the Higher Education Academy. She receives £10,000 to support professional development in teaching and learning.<sup>16</sup>

### The Worldwide Learning Centre celebrates its fifth anniversary

The Worldwide Learning Centre, part of the School of Language, Literature and International Studies, marks its fifth anniversary. The Centre, which champions language and cultural learning across Preston, Lancashire and beyond, has welcomed over 1,000 young people through its doors since it opened in 2009. Students across the county are invited by the centre to take part in unique language learning events throughout the year including a simulated interpreting conference held in the specialised interpreting and translation suite.<sup>17</sup>

### Empowering visit to Oman for UCLan students

A group of UCLan staff and students travel to the Middle East to deliver a pioneering social cohesion programme which aims to empower young people to work as mentors in disadvantaged communities. The UCLan team of eight students and two staff, from the Centre for Volunteering and Community Action, join with international partner institution, the International College of Engineering and Management, to deliver the Global Youth Solutions Programme to 70 students in Oman.<sup>18</sup>



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## July

### UCLan researcher awarded MBE

Senior School of Health researcher Dr Caroline Sanders is awarded an MBE in the Queen's Birthday Honours List for services to paediatric urology and gynaecology. She has worked within the field of paediatric urology for nineteen years and gynaecology for the last few years, maintaining a clinical career at Alder Hey Children's NHS Foundation Trust. With a background in children's nursing, Dr Sanders leads a urology nursing team of five other nurses and provides services to children from the North West of England and Wales.<sup>1</sup>

### Volunteer work pays off for Burnley student

A Burnley student who also undertook hundreds of hours in volunteering work graduates with a first class honours degree in psychology. Aleesha Begum dedicated her spare time to various charities and organisations including the British Red Cross, Barnado's, Building Bridges and Action for ASD. It was a double celebration for the UCLan graduate who was also recognised by 'vInspired' for her voluntary action and making a real difference to the community. Aleesha's hard work pays off as she secures a position at Walker Prestons Solicitors in Blackburn after job hunting for just two weeks.<sup>2</sup>

### Local teenagers test energy consumption at UCLan

Pupils from St Michaels CE High School in Chorley visit UCLan to take part in a sustainability day focusing on teenage energy consumption. As part of a wider UK study called Taking on the Teenagers, the Year Nine pupils work with UCLan's ChiCi (Child Computer Interaction) Research Group to share their ideas on ways that future technology can reduce environmental impact.<sup>3</sup>

## August

### Young starter reaps educational rewards

A Dumfries student becomes one of the youngest ever graduates of UCLan. Originally from New Zealand, Sarah-Jane Robinson graduates from the BA (Hons) British Sign Language (BSL) and Deaf Studies course just 24 days after her 20th birthday. Sarah-Jane, known to all as Kiwi, became deaf when she was 10-years-old and almost instantly became adept at lip reading, picking up the art in no time. After leaving school Sarah-Jane was offered a place on UCLan's BSL course, one of few in the UK, and began her studies in Preston aged 17.<sup>4</sup>

### Food for thought for athletes with eating disorders

UCLan sports psychology lecturer Dr Vaithehy Shanmugam works on a collaborative research project that finds athletes with eating disorders are more likely to develop depression. Working with experts from Loughborough University, Dr Shanmugam asks whether depression leads to eating disorders in athletes or vice versa.<sup>5</sup>

### Students take full advantage of international travel

Record numbers of students widen their global horizons as part of their studies at UCLan. Figures show that during 2013/14, the number of students who travelled abroad with financial assistance from UCLan's pioneering Student Travel Bursary Fund increased by 190% compared with the previous academic year. The 1,641 students, from across all Schools within the institution, visited a wide range of countries as part of their degree course including China, Ecuador, South Africa, the USA and Uzbekistan.<sup>6</sup>

## September

### UCLan Group announces appointment of new Group Chief Executive

Richard Hext joins the University as its new Group Chief Executive following the retirement of interim Group Chief Executive, Malcolm McVicar. Richard takes on the role having built a career within the international shipping industry where he held a variety of senior executive positions. As Group Chief Executive, Richard has a specific focus on the development and growth of international business and overseas partnership development.<sup>7</sup>

### UCLan students celebrate Proud Preston's literary heritage

More than 200 students from UCLan's School of Language, Literature and International Studies take part in Preston's first literary tour using QR codes. Armed with a map detailing Preston and the UCLan campus, a list of clues and a smart phone, students search for the QR codes, which have been placed around the city and campus. Each QR code is a link to a webpage that contains a mini biography of an author, an extract from their writing, related courses at UCLan and nearby features of interest. The tour is the brainchild of Elsa Carron, a third year student of English Literature with Japanese and Dr Helen Day, Senior Lecturer in English Literature. Elsa, who is originally from Switzerland, set up the project while working as Helen's research intern over the summer.<sup>8</sup>

### UCLan research star awarded prestigious funding award

UCLan astrophysics academic Dr Cristina Popescu is awarded a prestigious Leverhulme Trust research grant for her project 'Connecting the high and low energies views of the Milky Way'. The £150,000 grant is the first major funding to be awarded to UCLan from the trust and sees Dr Popescu collaborate with the prestigious Max Planck Institute in Germany.<sup>9</sup>

## October

### UCLan makes key international appointment

The University announces the appointment of Professor Robin Pollard as its new Vice-President, UCLan Group and Deputy Vice-Chancellor (International). The New Zealander, who is a trained physicist, brings with him a wealth of experience in the establishment of overseas campuses, forging and managing international partnerships, large-scale organisational change, and the development of online education.<sup>10</sup>

### New Pro Vice-Chancellor (Student Experience) unveiled

Professor Gai Murphy is appointed to the new position of Pro Vice-Chancellor (Student Experience). She joins UCLan from the University of Salford where she enjoyed a long and distinguished career. Professor Murphy's role at UCLan encompasses responsibility for Student Experience, Retention and Widening Participation.<sup>11</sup>

### UCLan racers awarded for engineering skills

An electric car designed and built by UCLan engineering students wins awards at two regional rounds of a national racing event. The UCLan car is named the Best Engineered Car at two of the three events it enters and also wins an award for innovation after racing in the Greenpower Electric Car IET Formula 24+ race series. The vehicle was designed and built by second year students Christian Manterfield, 20, Ashley Pickin, 20, and Peter Sullivan, 19, and beat off competition from 20 other teams to win the awards, which were voted for by Siemens Engineers and other event sponsors.<sup>12</sup>

## November

### UCLan hosts inaugural humanities festival

UCLan participates in the UK's first national festival of the humanities, Being Human, which involves discussion, debate, public lectures, workshops and opportunities to meet researchers. UCLan's event champions the excellence and relevance of humanities research being undertaken at the University. Following on from the success of the Lancashire Science Festival it is hoped that an annual humanities festival will become a permanent fixture in the University calendar.<sup>13</sup>

### UCLan Multi-Faith Centre marks 25th anniversary

The University celebrates the 25th anniversary of its Multi-Faith Centre which is believed to be one of the first UK university faith centres ever established. In the same week, the facility welcomes the Archbishop of York as part of his tour of the Blackburn Diocese. Over the last 25 years the Centre has welcomed staff and students of many different faiths to worship and maintained an ethos of supporting people of all religions and backgrounds.<sup>14</sup>

### How do you make the public love projects like HS2?

UCLan's Westlakes Campus in Cumbria hosts a one-day conference to communicate how mega-projects such as HS2 or nuclear power stations, which are often met with resistance, can be used to deliver real benefits to the public. Organised by UCLan's Applied Policy Science Unit and part-funded by The Samuel Lindow Foundation, the event particularly focuses on how mega-projects can implement governance structures that can instigate dialogue with stakeholders and impact communities, regions and nations.<sup>15</sup>

## December

### Local student on track to write rail safety film

A UCLan student's work is set to be seen by millions after his scriptwriting talents are recognised by Northern Rail. Stevie Smith, a 22-year-old screenwriting student, wins an annual competition set by Northern Rail for UCLan students to create a 50 second film script around the theme of rail safety and appropriate behaviour whilst travelling on trains. Stevie pitched an idea to highlight the dangers of overhead electric cables on train lines and he will now work with a professional media company to produce the finished film.<sup>16</sup>

### Serving up a festive treat to lonely students this Christmas

Students' Union President Lee Mac serves up a Christmas dinner for those students who are left in the city over the festive break. The Good Samaritan puts on a festive treat for over 60 international students who can't afford to return home for the holiday period.<sup>17</sup>

### Christmas Truce centenary receives global recognition

A UCLan academic has a busy festive period thanks to his research into the Christmas Truce 1914. Dr Iain Adams offers expert comment about the First World War truce and associated football match to newspapers and websites across the world, including USA, Canada, Pakistan, The Gulf, Poland and Germany. Dr Adams is among a group of historians who warns that the true facts around the event, said to have taken place 100 years ago on 25 December, were in danger of being distorted.<sup>18</sup>

# Research with life-changing impact

UCLan cultivates a research environment that delivers demonstrable benefits to industries, organisations and community groups. From advising the Red Cross over the identification of human remains to leading international studies on healthcare issues, UCLan's research stimulates the innovative ideas required to tackle the global challenges of the modern world.



# Identifying the remains of the 'disappeared'



**In addition to his forensic science role at UCLan, Dr Will Goodwin acts as an expert advisor to the International Committee of the Red Cross advising on the identification of human remains in post-conflict environments.**

The increasing instability of wars and conflict across the globe poses major challenges to organisations like the United Nations (UN) and the International Committee of the Red Cross (ICRC) in helping countries to find, exhume and identify the bodies of the disappeared and missing which are scattered on battlefields and within hidden graves. For instance in Iraq there exists a 'mass graves unit' because there are so many missing people, with estimates varying between 500,000 to 1 million dating back to the Iran/Iraq war.

Dr Will Goodwin, from UCLan's Forensic Biology Group, was involved on one of the first occasions when human DNA was used in the identification of victims of conflict back in 1994. Indeed his work on DNA extraction and evaluation of DNA evidence continues to inform the published guidelines produced by ICRC, distributed to governments around the world involved in the identification of human remains.

"Under the Geneva Convention, the ICRC has a remit to support governments in fulfilling their obligations," explained Dr Goodwin. "One of these is to clarify the fate of those people killed and missing in conflict.

"Before the advent of modern forensic science techniques it was medical and military records that confirmed if a person had died. However, it is the advances we continue to make in forensic science that are facilitating the increasing return of physical remains to families and thereby clarifying the fate of the missing persons. It's a vital service that really helps when it comes to easing the process of closure for all those involved."

Together with research colleagues, Dr Goodwin provides direct support to governments as required. He provided key evaluations for the DNA-based identification of human remains in Iran (2008 and 2012), Lebanon (2011) and Iraq (2013). In 2014 he continued to develop bespoke training programmes for the ICRC, national Red Cross societies and related organisations to facilitate national forensic programmes and preparation for mass disasters and identification of human remains following on from conflict.

"We have also conducted research into improving the isolation of DNA from difficult samples, in particular through work done in conjunction with the Government of Kuwait," continued Dr Goodwin, and this is continuing with ongoing work in collaboration with Iraq's Medico Legal Institute.

"This research led to the successful recovery of DNA from 25 sets of remains that could not be analysed using conventional techniques. More importantly, the methodology can be applied to other forensic contexts involving mass graves and is also applicable to crime scene investigations. Indeed we are now making real advances in how to better preserve material post collection and in the future we'll be looking to refine our techniques to extract DNA from ever poorer samples."

Dr Goodwin has also contributed to a new set of guidelines that promotes the application of Forensic Genetics for the Identification of Human Remains in post-conflict environments, covering the legal, ethical and technical aspects of Forensic Genetics in this context. The guidelines were drawn up in response to two UN resolutions promoting the use of Forensic Genetics and were recently presented at the UN's 28th Session of the Human Rights Council.

"This kind of work is only going to grow," he concluded. "There is now an awareness that advanced forensic techniques are possible even in the world's most remote places. The victims of those lost quite rightly can have a very powerful voice and the pressure to make politicians answerable has never been greater."

*"My experience has taught me that the disappeared are often the most contentious issue in peace making, the question that makes confidence building all the more difficult. Rightly so."*

Sergio Vieira de Mello, Former United Nations High Commissioner for Human Rights

# Reflections of health

## UCLan research team plays key role in pioneering 'Wize Mirror' development

UCLan researchers are playing a key role in the development of a ground-breaking health aid which can examine, assess and advise on physiological and psychological wellbeing via an analysis of the human face.

UCLan's Bogdan Matuszewski, Professor of Computer Vision, is working within a consortium of 10 partners from seven European countries on a project which will result in the production of the revolutionary 'Wize Mirror'.

Known as \*SEMEOTICONS, the three-year, €5.3 million project is funded by the European Commission and will result in the production of a multi-sensory system integrated into a hardware platform which looks exactly like a mirror.

The mirror automatically collects health data from an individual standing in front of it, mainly in the form of videos and images. The only instrument which will require a direct interaction with the user will be a gas sensor used to measure the concentration of some substances within the user's breath.

Professor Matuszewski, who heads the Robotics and Computer Vision Research Laboratory at UCLan, has a key role in

the project. He and his research team are producing the technology which will in real time enable a person to be detected, located and tracked in three dimensions while in front of the mirror as well as reconstruct the shape of individual faces. The Wize Mirror will also be able to distinguish between different users.

Professor Matuszewski explained: "Characterising a freely moving person in real time, and producing a three dimensional image of a face, requires a



Bogdan Matuszewski,  
Professor of Computer Vision.

*"Characterising a freely moving person in real time, and producing a three dimensional image of a face, requires a number of different cameras and sensors to be embedded into the mirror."*

number of different cameras and sensors to be embedded into the mirror. Information from each camera needs to be processed so that it is categorised and precisely aligned in space and time to recreate an accurate representation of the user's face. It is not an easy process to achieve but we are making good progress."

In total, the project contains eleven research 'packages'. Professor Matuszewski is leading in the area of three dimensional reconstructions but he also has an involvement in many of the other research areas including multi-spectral data analysis and sensor development.

He added: "We envisage that via the integrated multi-spectral camera system, the Wize Mirror will have the ability to detect different compounds in facial skin tissue such as cholesterol. Additionally, simple blood flow, blood oxygenation and circulation functions will also be analysed. The system will also measure heart rate and heart rate variability and how the facial shape evolves over time, detecting weight changes, facial irregularities or local growths. In terms of psychological measurement the mirror will be able to assess stress, anxiety and fatigue."

The resulting information will be processed by dedicated algorithms to make up an individual's health status which will then be compiled within a 'wellness index' and monitored over time.

The system, which will be validated by medical experts, will provide suggestions and coaching messages to encourage a healthy lifestyle. Users will have the option to share data in their diary with health professionals so as to receive, when needed, direct expert guidance and support.

Once fully developed, it is envisaged the mirror will easily fit into a user's home as well as other relevant locations, like fitness and nutritional centres, pharmacies and schools.

"Innovative new developments in digital health are set to become widespread," predicted Professor Matuszewski. "We already have consumers armed with smartphones, apps, and the Internet to better manage their own health and that of their families. In the future our Wize Mirror and products like it will add to this digital arsenal, helping to play a vital role in monitoring health status over the long term."

\* SEMEOTICONS stands for SEMEiotic Oriented Technology for Individual's CardiOmetabolic risk self-assessment and Self-monitoring.



# Research on the hoof

## UCLan biomechanics expert leads global study into equine arena surfaces

Research impact that makes a difference to society, individuals and organisations comes in many forms and in 2014 an equine biomechanics expert from UCLan led the world's most extensive study into the effect of arena surfaces on the health of sport horses.

Dr Sarah Jane Hobbs was the lead author on a report published by the International Federation for Equestrian Sports (FEI) which examined the effects of surfaces on orthopaedic health and performance of sport horses in training and in competition.

The Equine Surfaces White Paper was the result of a four-year collaboration between

eight equine experts from six universities, three equine and racing-specific research and testing centres as well as two horse charities all based in locations across the world.

Key properties of footing, and the effects of footing on horses' physiological and biomechanical responses, were examined in the research, as well as the optimal composition, construction and maintenance of arenas for maximising equine performance while minimising injury risk.

Current methods of measuring the physical properties of surfaces, and the essential surface preparation and maintenance techniques,

were also highlighted in terms easily understood by riders, trainers, course designers and arena builders. The aim is to guide the future development of suitable competition and training surfaces for sport horses.

UCLan's Dr Hobbs, research lead in equine biomechanics, commented: "The London 2012 Olympic Games was the first time science played a major role in informing the construction of the temporary arenas on which the horses competed.

"At that time it became clear that we needed to pool together our current knowledge and use this to develop

standards for arena surface testing, which would ultimately help to reduce the risk of injury. I produced the first section of the white paper while watching the British team jumping and dancing their way to gold medals.

"Up until now the terminology used to describe the functional properties of arena surfaces has been at best unclear and it is often vague or confusing. For the first time our research defines the properties of arena surfaces in a detailed engineering context, but we've done it in a language that can be understood and evaluated by the riders."

The white paper has been funded by the FEI, World Horse Welfare, the Swedish Foundation for Equine Research and the British Equestrian Federation. Dr Hobbs has worked with seven equine scientists and researchers in the UK, USA and Sweden.

"The Equine Surfaces White Paper is the biggest international collaboration of its kind, and is vital to our understanding of how surfaces work in order to reduce injury risks to horses," said John McEwen, FEI first Vice-President and Chair of the FEI Veterinary Committee. "Now, thanks to scientific research, and extensive support and partnership between welfare charities and horse sport, we can fully understand how the right surfaces, with the necessary preparation and ongoing maintenance, can extend the working lives of sport horses and produce the best performances."

Dr Hobbs concluded: "This is living research and we will continue to update it as we develop our knowledge on surfaces, surface data and the resulting impact on horses. As sport involving horses continues to grow around the world this research is of key importance."



*Pictured (foreground): Dr Sarah Jane Hobbs.*

# Customising medicines on demand

## Pioneering research technique enables 3D printers to produce oral tablets

**In recent years tremendous strides have been made in the health sphere thanks to advances in 3D printing. 'Bioprinting' is transforming the way we view the future of organ transplantation, while the 3D printing of dental implants or prosthetic devices to replace missing parts of the body has changed the lives of people worldwide.**

Now a research team from UCLan, led by Dr Mohamed Albed Alhnan, has developed a revolutionary technique which could soon see low cost, personalised medicines readily available via 3D printer technology.

The revolutionary process, currently undergoing a patent application, uses a 3D printer to 'print' a tablet of medicine with realistic quantities that can be taken by a patient. The printer can replicate drugs already available in pharmacies and hospitals, but more importantly can tailor medicines directly to an individual patient's needs.

This technology will potentially reduce the cost of manufacturing tablets for individual patients - something that costs the NHS millions of pounds every month - while also opening the door to new options for doctors and patients that used to be considered impractical or too expensive.

UCLan's research team has developed the technique via a drug-polymer filament system

that can replace the original filaments in a 3D printer. The team discovered that the new pharmaceutical 'ink' allowed the team to print a tablet design with significant improvement of appearance and high accuracy of tablet weight and dose.

The potential of the new process is enormous. Doctors and individuals could ultimately download pre-set recipes and even tailor medicines to their individual needs.

Commenting on the future impact of the newly developed technique Dr Albed Alhnan said: "3D printing has been embraced by lots of different industries but we have shown how this technology could be harnessed to improve medical care, providing low-cost, personally tailored medicines for patients.

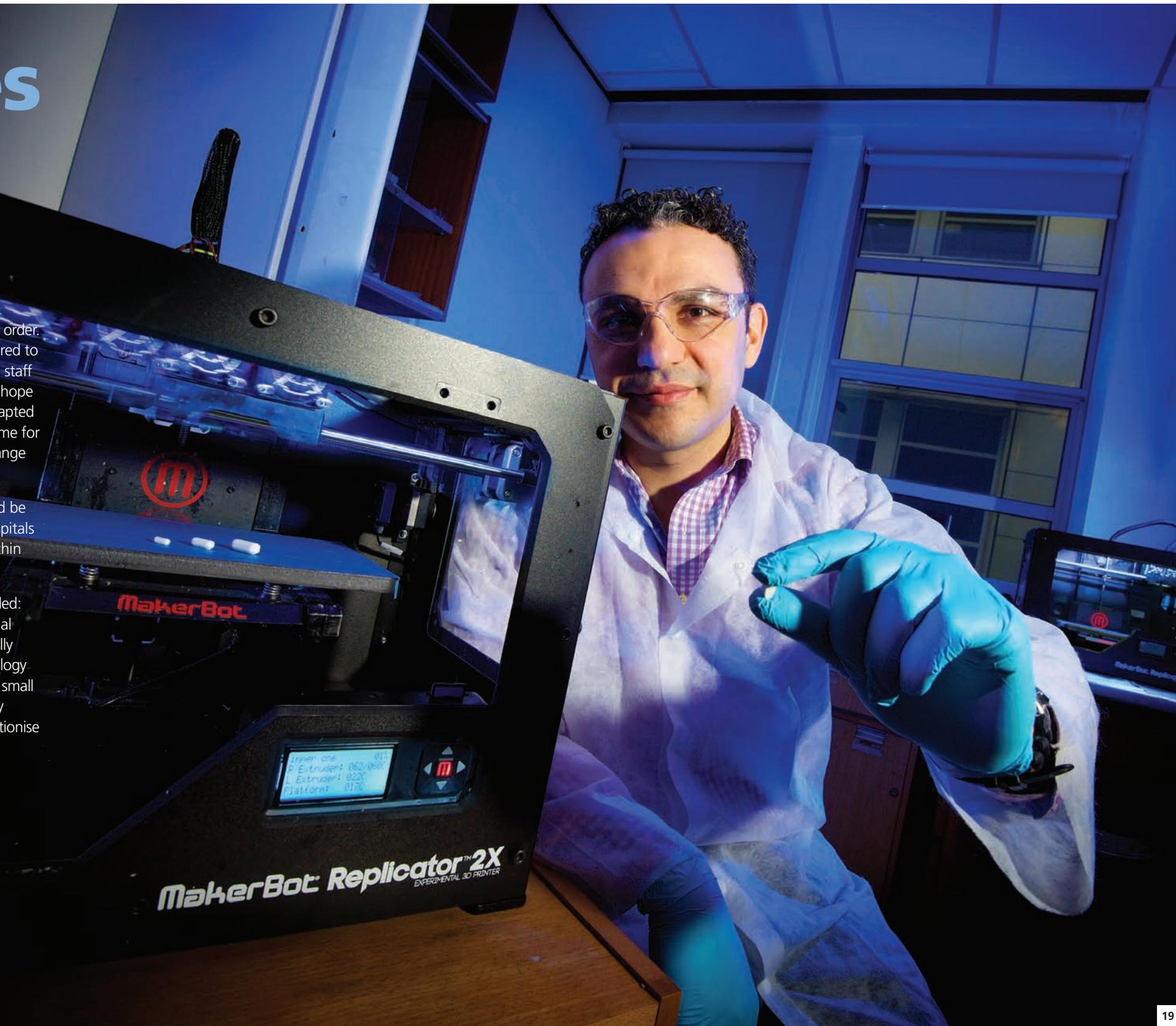
"Thanks to this technology, doctors, hospitals and the healthcare industry in general will be able to maintain drug dosage

*"3D printing has been embraced by lots of different industries but we have shown how this technology could be harnessed to improve medical care, providing low-cost, personally tailored medicines for patients."*

properties and, with the help of simple software, accurately adjust the dose to order. In the past this was something considered to be too costly and required experienced staff and dedicated facilities. Eventually, we hope to see the development of specially adapted 'printer' units which can be kept at home for patients who continuously need to change their daily dose."

It is predicted that the technique could be used by pharmaceutical firms and hospitals within five years and by the public within a decade.

The pioneering UCLan scientist concluded: "If we can maximise it to its full potential this new technique will place traditionally expensive chemical engineering technology within reach of typical laboratories and small commercial enterprises. It really is a very exciting development that could revolutionise access to healthcare throughout the developing world."



# Every second counts

## UCLan leads national study to improve survival after cardiac arrest

**Every year over 60,000 people in the UK experience a cardiac arrest outside the hospital environment. It is an extreme medical emergency and survival rates remain very poor, varying from 2 percent to 12 percent.**

Early effective cardiopulmonary resuscitation (CPR) and rapid paramedic attendance are essential to a positive outcome. Therefore the speed and accuracy of potential cardiac arrest recognition by 999 call handlers is fundamental, since every second of delay reduces the chance of survival and long-term recovery.

In 2014 a team at UCLan, led by Professor Caroline Watkins, began collaborating with the Emergency Medical Services and with regional hospitals to explore whether call handlers could be assisted in recognising out of hospital cardiac arrest more easily. Underlining the importance of the work, the project has been funded by Department of Health through a grant totalling well over £500,000.

“Call handlers have three vital roles in out of hospital cardiac arrest,” explained Professor Watkins. “The first is recognising cardiac arrest symptoms from the caller’s description; then to facilitate a rapid response, and finally to provide effective CPR instructions.

“However, it is not always easy for the call handler to spot someone who is having, or is at risk of, cardiac arrest. It can be particularly challenging if the person is experiencing indicators which may also be associated with

other conditions or the call handler is relying on a bystander to report the symptoms.”

Professor Watkins and her team are in a unique position to undertake this vital work based on their success with the National Institute of Health Research-funded ESCORTT project, as a result of which it was possible for call handlers to improve stroke recognition rates.

The new project is using existing data and involves listening to past 999 telephone calls relating to symptoms associated with cardiac arrest. Researchers aim to find key words and phrases that may help the ambulance call handler recognise the presence or risk of cardiac arrest. If predictive words and phrases can be identified then the research team will make recommendations for future call handler training.

To assist with the project Professor Watkins has been instrumental in bringing together the key players who represent all organisations involved in out of hospital cardiac arrest. They are leaders in the fields of emergency medicine, cardiology, dispatch systems and pre-hospital research.

*“These are life-threatening situations where every second counts so being given the opportunity to work with frontline staff gives us a great opportunity to enhance the quality, safety and efficiency of care.”*

The research will be centred in the Lancashire Clinical Trials Unit, a facility directed by Professor Watkins and which opened in 2014. The unit is the first of its kind in Lancashire and will primarily focus on supporting complex intervention trials in stroke, midwifery, cancer, musculoskeletal health, public / population health and mental health.

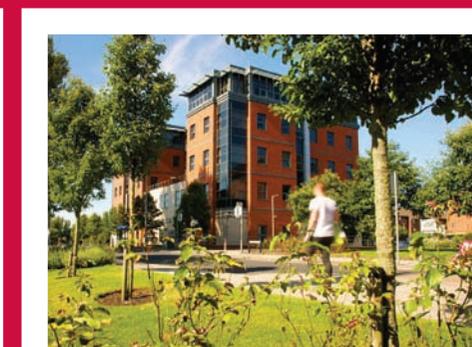
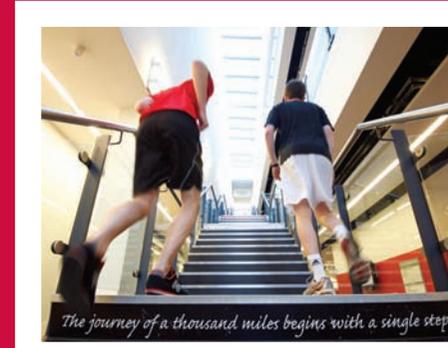
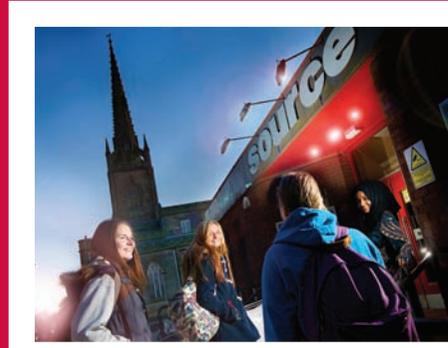
The results of the project will be shared with both the academic world, in the form of publications and conference presentations, and with the clinical community, through newsletters, clinical forums and research and development events. Patients and the public will be made aware of the results through newsletters and presentations at patient and public involvement forums. Professor Watkins added: “These are life-threatening situations where every second counts so being given the opportunity to work with frontline staff gives us a great opportunity to enhance the quality, safety and efficiency of care.

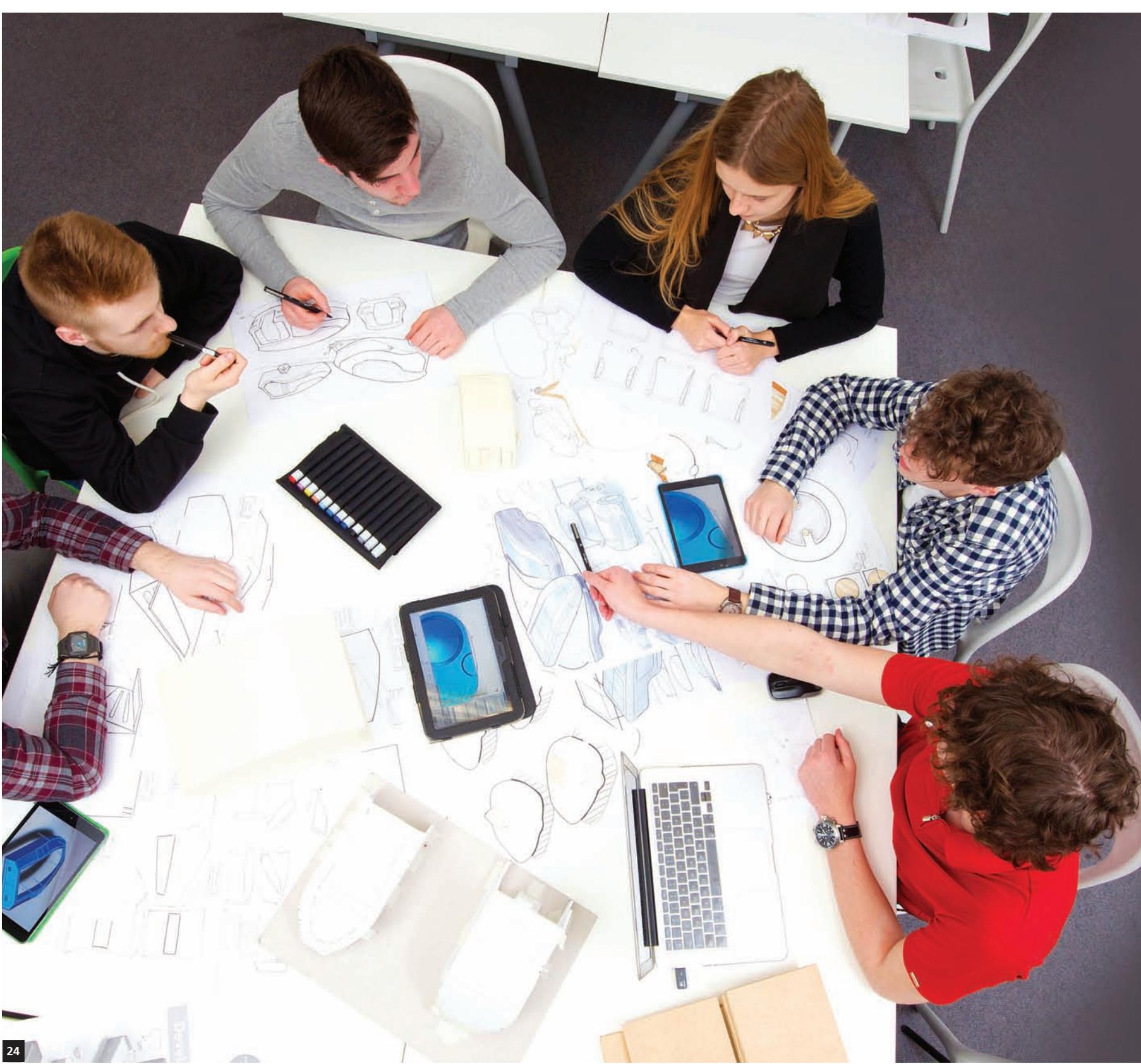
“If the symptoms of cardiac arrest can be identified earlier, treatment can be administered more promptly and, crucially, more people are likely to survive.”



# Bringing the UCLan experience to life

Providing an excellent student experience lies at the heart of what we do. Over the years we have invested heavily in new facilities and in the future we've pledged to do much more to create a unified, sustainable and welcoming campus. Bricks and mortar play their part but the UCLan student experience is much more than that. It's an inclusive experience that welcomes people of all ages and backgrounds and one that maximises potential and builds confidence in those with a desire to succeed.





# Visible aspirations, invisible barriers

## Sector-leading foundation programme to nurture new generation of graduate stars

UCLan has long been a pioneer in widening participation. 'Ex solo ad solem', or in translation, 'From the Earth to the Sun', has been our motto from the very beginning, helping people from all walks of life to make the most of their educational potential. In 2014 the University demonstrated national leadership in this area by extending its four-year Foundation Entry honours degree across the whole of its subject portfolio totalling over 500 courses. It was a strategic decision which exceeded the University's most optimistic predictions and attracted an intake of over 900 students - people who otherwise may not have accessed higher education.

The UCLan Foundation Entry degree is not a normal one-year access course or a foundation degree that requires a top-up, but a four-year degree with an integrated introductory year. The resulting qualification is of equal value to an honours degree accessed via traditional routes.

Pro Vice-Chancellor Dr Lynne Livesey has many years' experience of curriculum development, quality assurance and enhancement of student experience across educational disciplines. She said that to enable such a dramatic expansion of the courses, the University invested a lot of resource into ensuring staff were equipped with the knowledge and skills to properly support these new groups of students.

"We knew that we wanted to extend this route to higher education and we knew we could make it work for students but we had to make it work for staff too. Adopting a holistic approach, we brought in extra resource and used our current academics experienced in teaching foundation entry students to share how best to teach and support a diverse range of students, some with challenging personal circumstances," explained Dr Livesey. "It was important to us that all courses were accessible via this route: the driving force was a desire to open up access, not fill places, and so even our star-performing, highly sought-after courses are available to Foundation Entry degree students."

Prior to 2014, UCLan successfully offered a Foundation Entry route for a select number of courses. Graduates from these programmes often feature amongst the University's greatest success stories; with high levels of first and upper-second degree attainment and progression to professional-level employment or graduate-level study.

"We are very optimistic we can replicate our success in this area with our current cohort of students," added Dr Livesey. "Typically, students enrolling on our foundation programmes are those with the potential to succeed but for a variety of reasons haven't achieved the requirements to study a degree. In practice, a significant number are very able and we know from our previous foundation entry scheme that students accessing our courses via such a route had comparable or better attainment from Year 1 to Year 2 than students on the traditional entry route.

"UCLan has an extremely strong track record of access for under-represented groups but we are incredibly proud of this step-up in our educational provision. We are talking about highly motivated students from diverse backgrounds and age ranges. If they can demonstrate the potential to succeed then our Foundation Entry programme represents a fantastic opportunity that in many cases is life changing."

*"UCLan has an extremely strong track record of access for under-represented groups but we are incredibly proud of this step-up in our educational provision."*

# UCLan vision to strengthen foundations for learning

An exciting £200 million campus redevelopment plan puts students at its heart and will bring the University and the City together like never before.

A hallmark of successive University strategic plans has been to continually enhance the living and learning experience of UCLan students. A model of close consultation with students to establish their needs is at the heart of the University's decision making process. In 2014 student feedback played a key role in the development of UCLan's Campus Masterplan proposals.

UCLan's vision over the next 10 years is to create a unified, sustainable and welcoming campus to enhance the experience for all those visiting the University.

The new campus will integrate seamlessly with the rest of the City, benefitting current and future generations of students, staff, visitors and the wider community.

Subject to planning approval, the first stage of the development will see the construction of the £30 million+ Engineering Innovation Centre (EIC), in 2016.

Simultaneously, work will begin on the creation of an iconic gateway to the University. At its heart will be a remodelled Adelphi roundabout with the construction of a new public square drawing together the University and the City.

Other key aspects of the plan include:

- The creation of a new student services building to link to the existing UCLan library via an elevated glass walkway. This will replace the demolished Fylde building, which borders the Adelphi roundabout.
- The landscaping and conversion of the historic canal basin on Maudland Bank into a public walkway with a specially designed trail and cycle route.
- Encouraging communities and businesses to work with the University to regenerate the area around Corporation Street and Friargate. The aim is to boost inward investment and deliver new business and commercial opportunities for the City.
- Relocating car parking from the centre to the edge of the campus in safe, well lit locations while retaining a small number adjacent to buildings and open

spaces, to ensure provision for mobility impaired staff and students, visitors, deliveries and maintenance.

- Reconfiguring and improving the environmental quality of the resulting spaces through landscaping. The vision is to create a unified, green campus where internal and external events and exhibitions can be located, transforming the functional into social, communal and recreational.

UCLan's Interim Vice-Chancellor Professor Mike Thomas said: "Over the coming decade we will invest in the region of £200 million to create a world-class campus environment which blends new facilities with the creation of public, green spaces to encourage people from all over the City to visit and enjoy our grounds."

The project is also hoped to spark a major focus on regeneration and business investment in the University quarter with wider benefits for Preston and beyond.

Professor Thomas added: "Developing a skilled workforce that meets local, national and international needs is central to our development plans. Future investments like the EIC will reflect that goal, helping to create jobs, kick-start regeneration and attract inward investment into the City."

"Our vision for the future of the University is shared and supported by our project partners Preston City Council and Lancashire County Council. Through a variety of public engagement exercises we are committed to listening and working with our neighbours and all the community, to ensure the City and region benefit from the tremendous cultural and economic opportunities that our plan will deliver."

The new square, an iconic gateway to the University, will replace the current Adelphi roundabout.

# Eureka!

## New centre to inspire the next generation of scientists

Every year there is a shortfall of 40,000 Science, Technology, Engineering and Maths (STEM) graduates in the UK. At some point in their education, increasing numbers of students seem to be ‘turned off’ by these subjects. But as anyone who has ever worked in scientific or engineering careers can testify, there are few disciplines as continually rewarding as the sciences – and certainly none as vital to the continuing international competitiveness of the UK.

For many years UCLan has followed a strategy that focuses on exciting youngsters about science; how it works and how it can change lives. Every year this commitment is brought vividly to life through the Lancashire Science Festival; an imaginative and engaging blend of education and entertainment, an initiative which continues to go from strength-to-strength.

In 2014 the University reinforced its commitment to science outreach investment through the launch of the UCLan Young Scientist Centre (YSC), a partnership with the Royal Institution (Ri). Modelled on the successful L’Oréal Young Scientist Centre at the Ri in London, the YSC is the first of its kind in the UK outside the capital and has been built to encourage interest, learning and creativity in all aspects of science and technology among primary, secondary schools and local community groups.

The centre was opened by School Reform Minister Nick Gibb along with Jamie Edwards, a local school student and the

youngest person in the world to carry out a nuclear fusion reaction. Mr Gibb said the Government’s plan for education will ensure all young people leave school with the knowledge and life skills they need to succeed in modern Britain.

“Increasing the focus on STEM subjects is important in helping to reinforce the country’s position as a leader in science and innovation,” he explained. “We hope new facilities like the Young Scientist Centre in Preston will inspire young people to study science and technology at degree level and help to boost graduate numbers in these crucial core academic subjects.”

Dr Liz Granger, Manager of the UCLan and Ri YSC, added: “The earlier we can get young people engaged in the vast potential of studying STEM subjects, and the sooner they get excited by giving experiments a go, the better for all of us. Currently our centre runs around two workshops a week for schoolchildren from the age of seven right through to A-level pupils, and can teach up to 30 people at any one time.”

The aim is to eventually hold sessions five days a week and already summer science sessions have been planned in August for youngsters to boost their science skills. In its first year the YSC aims to engage 150 teachers while up to 3,000 young students will benefit from its interactive activities.”

Dr Granger continued: “Run over several dates and age dependant, our young

scientists can choose from a variety of activities such as taking part in a forensic science CSI day, creating slime, bath bombs and lip balm or examining their own cells under the microscope and extracting DNA. The options are limitless.”

Dr Gail Cardew, Director of Science and Education at the Ri said: “For more than 215 years the Ri’s mission has been to encourage people to think more deeply about the wonders and applications of science, and our new partnership with UCLan will play a key role in helping us achieve this mission in the years to come.”





# Bringing emergency scenarios to life: a student experience which could save lives

## University invests in state-of-the-art 'major incident' training simulator

The management of major incidents, anything from plane crashes to the search for a missing child, can now be authentically recreated and experienced thanks to a purpose built, state-of-the-art simulation suite which was installed at UCLan during 2014.

The training suite is the most sophisticated university installation in the country and one of the very few in UK universities to mirror the specification and complexity of the most advanced systems used by police forces and other emergency services across the UK and abroad.

Known as Hydra-Minerva, the training simulator realistically provides participants, be they university students or real-life practitioners, with an authentic experience in which they become immersed in dealing with serious issues as if they were really happening.

Including hardware and software, the University has invested £360,000 in the facility which incorporates a control centre, a major incident conference room together with additional rooms for student teams to develop and direct incident strategy, tactics and operations. Emergency scenarios could

play out over periods from twenty minutes to several days, and between one and thirty students or other participants can use the facility at any given time.

Students following policing-related and other emergency services courses will be major users of the new facility although it has applications for students studying subjects such as psychology and business.

The suite was opened by Lancashire Constabulary's Chief Constable Steve Finnigan, who said: "This immersive learning

suite uses state-of-the-art technology to recreate live critical incidents and allow students to experience different command scenarios virtually. I believe that the opportunities provided by UCLan's investment in this suite will take our collaborative work to another level."

UCLan's David Mallaby, Principal Lecturer and Academic Lead for Policing, is a former police chief superintendent with a career in the Force spanning thirty years. Commenting on the new facility, he said: "Major emergencies such as plane and train crashes are typically complex, initially chaotic and often challenging to manage. These incidents require a team-based approach in which the activities and efforts of those officers involved are effectively co-ordinated and properly directed.

"The investment we have made in this state-of-the-art system will bring critical incident scenarios to life for our students, encouraging

them to think strategically, plan tactics and deliver successful outcomes. It's a safe but challenging training setting where good practice can be identified and shared but crucially it's a place where mistakes have no operational consequences."

David added: "Our system is also extremely flexible - we'll be able to run off-the-shelf scenarios, we can customise them to our own needs or we can produce and film completely new situations. We envisage that students from across the University will use our simulator, enabling them to develop communication and leadership abilities and therefore enhancing their employability skills."

A number of exercises are available and many more can and will be designed and written. A recently written Counter Terrorism scenario, for example, explores investigative, community and critical incident management skills and provides a real world,

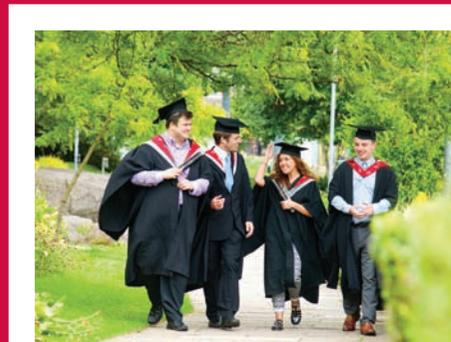
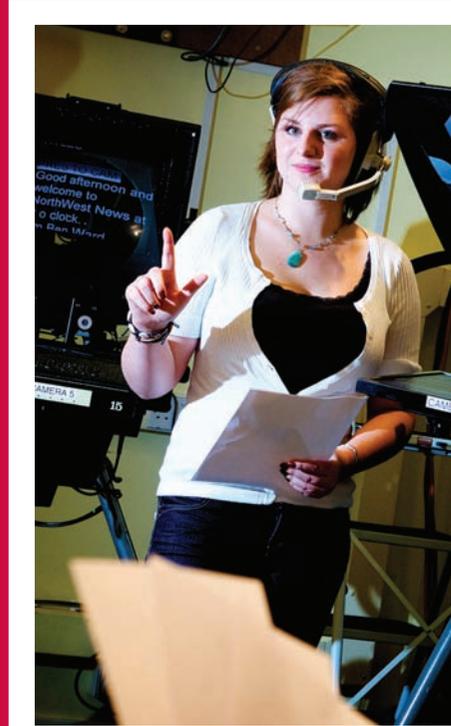
operational context to augment academic principles taught in the University. The system presents the students with video, audio and documents and allows them to seek additional information throughout.

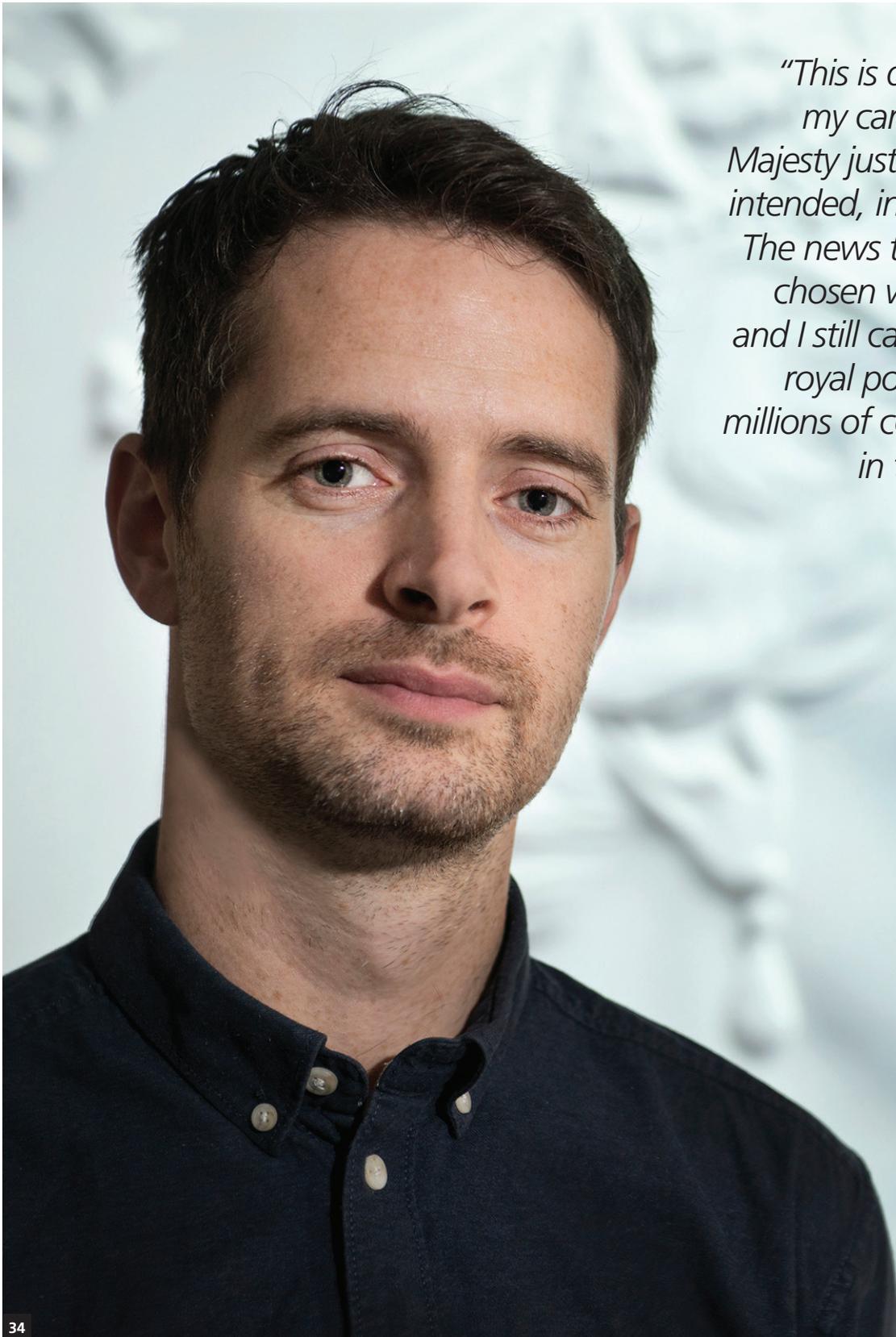
Professor Jonathan Crego, Director of the Hydra Foundation, commented: "The new suite at UCLan is a fabulous Hydra Simulation Centre and the most sophisticated university installation in the country. UCLan also has the first UK installation of the new system 'Hydra-in-the-Cloud'. This provides the facility with a unique teaching and research capability and allows the University to operate alongside police and fire services, both within the region and internationally, as Hydra is operating in 80 centres globally."

UCLan students using the simulator will be based on programmes at foundation, undergraduate, postgraduate and PhD level.

# Career preparation for life

As an enterprising university, UCLan encourages innovative thinking among staff which in turn produces resourceful graduates who see how opportunities can be grasped, nurtured, and developed. UCLan is preparing its students not only for their first career move, but for the challenges of change throughout their working lives.





*“This is definitely the highlight of my career. I hope I’ve done Her Majesty justice and captured her as I intended, in a fitting representation. The news that my design had been chosen was quite overwhelming, and I still can’t quite believe that my royal portrait will be featured on millions of coins, playing a small part in the Royal Mint’s history.”*

# Illustration graduate receives Royal seal of approval

**Former UCLan student creates first royal coinage portrait in more than 100 years**

The University has a long tradition of providing an environment in which students can fully develop their talents and ambitions and make a real difference to our world. In 2014 it was announced that the work of illustration graduate Jody Clark will literally be in millions of people’s pockets after he cemented his place in the Royal Mint’s 1,000 year history by designing the new coin portrait of the Queen.

Jody, who graduated from the University in 2004 with a degree in illustration, has designed only the fifth definitive coin portrait to have been created during the Queen’s 63-year reign and is the youngest of the five designers to do so. Working for the Royal Mint, he is also the first engraver from the institution to create a definitive royal coinage portrait in more than 100 years.

Jody’s handiwork will soon become a familiar sight on some of the estimated 28 billion UK coins in circulation. He said: “This is definitely the highlight of my career. I hope I’ve done Her Majesty justice and captured her as I intended, in a fitting representation. The news that my design had been chosen was quite overwhelming, and I still can’t quite

believe that my royal portrait will be featured on millions of coins, playing a small part in the Royal Mint’s history.”

A number of specialist designers from across Britain were invited to submit their own interpretations of the Queen’s portrait under anonymous cover, and each one was judged on its merits and suitability before the winning artwork was recommended to the Chancellor and, ultimately, the Queen for approval. The portrait shows a side profile of the Queen wearing a crown and drop earrings.

Jody commented: “The crown I have included is known as the Royal Diamond Diadem, which the Queen is known to wear to Parliament and official state engagements. It is also the crown which Raphael Maklouf used in his royal portrait. The drop earrings are real earrings which she is often

photographed wearing with the diadem. I originally included a necklace to balance off the crown, but was advised to try the design without it so I went for a sweeping neckline instead and think that improves it.”

Looking back on his time at the University Jody added: “I have fond memories of my time at UCLan because I met some of my best friends there and the course helped with broadening my horizons in terms of future career opportunities.”

Jody joined the Royal Mint in 2012 and is part of an in-house team of skilled engravers. He designs and makes models for medals and both UK and international commemorative and circulating coins, and has worked on commissions for Costa Rica, Tanzania, Lesotho and Azerbaijan.



# Fusing academia with industry is music to the ears

**A successful career in the creative industries requires resourcefulness, ingenuity and endeavour but it's the University's approach to unlocking these personal characteristics that's enabling UCLan graduates to thrive in a highly competitive marketplace.**

The creative industries in Europe make a significant contribution to the EU economy, creating about three percent of EU GDP - representing an annual market value of €500 billion - and employing about six million people.

And yet getting into the creative industries; whether photography, music management, fashion, journalism - or any of the other industries that fall under this broad banner - has always been challenging.

At UCLan employability is embedded into curriculum design across the board, meaning that all students benefit from day one. Developing strategic relationships with employers and professional bodies is key; creating opportunities for students to undertake work placements, become involved in mentoring relationships, and participate in fieldwork and live, campus-based work-related learning.

In 2014 a remarkable live project saw four MA Music Industry Management and Promotion students working with Manchester rapper MC Tunes to bring his lost album, *Damage By Stereo*, to the ears of the music loving public.

The album was originally recorded in 1991 but was never released following a disagreement between Tunes, whose real

name is Nicky Lockett, and his record label ZTT. The hip-hop star then bought the tapes from the label but left them untouched to work on other projects.

*Damage By Stereo* received its first outing at Manchester's Factory 251 in the Spring of 2014 at an event called 23 Years Late which attracted an audience of several hundred. The four students; Tony An, Vickie Cummins, Belle Lu and Jed Saint, organised the exclusive public airing of the album and arranged for former Inspiral Carpets member and DJ Clint Boon to interview MC Tunes in between album tracks and while an artist painted the album's cover live on stage.

The Factory 251 gig was just one aspect of a wider campaign run by the Masters students to promote the album. They also arranged for the fragile original tapes to be carefully restored by Manchester's Advanced Media Restoration, ran a PR campaign targeting national and trade press to share MC Tunes' lost album story, established a social media presence for the rapper and enlisted the help of three other UCLan production students to film a promotional video of MC Tunes.

Student Vickie Cummins commented: "The whole process was a huge undertaking and one we really relished. Getting involved in so many aspects of the promotion process

- from arranging the successful exclusive event in Manchester to producing flyers to hand out at a BBC 6 Music Festival and contacting music blog sites to share the story - means it's been a massive learning curve that has shown us what it's really like to work in this industry."

MA Music Industry Management and Promotion Course Leader Les Gillon said it was live project work that made the UCLan programme stand out from similar courses. "These students aren't just theorising about what it's like to promote an artist," he said. "They're actually doing it and learning from industry professionals along the way."

*Damage By Stereo* was released in February 2015 on UCLan Honorary Fellow Peter Hook's label, Hacienda Records, allowing the students to benefit from working with the musician's promotional team as part of the project.

Fellow student Jed Saint said: "We've worked extensively with Peter Hook's team and were able to utilise their contacts to make the project a real success. It's been fascinating to see the original lost tapes restored and then work with MC Tunes here at UCLan and record a music video that accompanied the album's promotion. As a student wanting to forge a career in the music industry the whole experience has been priceless."



*Students and staff work alongside MC Tunes in the UCLan recording studio.*

# Creative minds enhance business landscape for Lunar

Preparing and encouraging students to explore opportunities, show initiative and encourage ingenuity is a key component of UCLan's culture.

The development of entrepreneurial skills is nurtured through external projects or assessed units where students are encouraged to learn through doing. The process allows students to experiment, test out ideas and take risks, as well as introducing experiences such as collaboration and working as part of a team. In 2014 final year design students from several courses across the University worked with local caravan company Lunar Caravans to create the micro van of the future.

The project brief was to look at ways to make caravanning more appealing to a younger audience by creating concepts for smart interiors, multifunctional fittings and energy efficient ideas for future designs.

Lunar, which has been trading for 46 years and reaches an international market, created and delivered a prototype micro caravan to the Preston campus specifically for the UCLan students to test out their ideas before presenting back to the company.

Lunar chairman and CEO Brian Mellor commented: "We are a very proud Preston company so it gives us great pleasure to be associated with our city's University and working together for the good of local students, local business and the community."

The collaborative venture means that the final year undergraduate product design students,

postgraduate interior design, as well as those studying surface pattern design and fashion and brand promotion, can work on a real-life industry project and potentially see their designs manufactured by Lunar in the future.

Graham Hill, Product Design Course Leader, said: "The project has allowed all of the students to work with a genuine client and receive invaluable feedback from industry designers. Our students have brought fresh eyes to the concept and Lunar has encouraged them to think freely and not be constrained by current design trends.

"We've seen the students develop some really exciting ideas, across all the courses taking part. They are devising creative solutions to making small spaces work efficiently, producing energy smart vehicles and creating concepts that mean a customer could tailor a caravan design to suit their individual needs."

Commenting on the project, UCLan final year product design student Urte Jurkeviciute said: "I'm looking at ways to open up the caravan space and align it more closely with nature. With clever use of space and lighting I believe it's possible to create something which feels much bigger and more airy.

"It's fantastic that we have a full-size prototype to test our ideas, it makes it much easier to visualise our concepts. Working alongside an industry client and having

the possibility of seeing my work go from drawing board to reality is an ideal grounding for my future career aspirations."

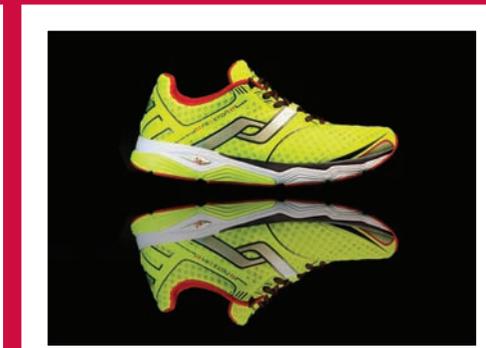
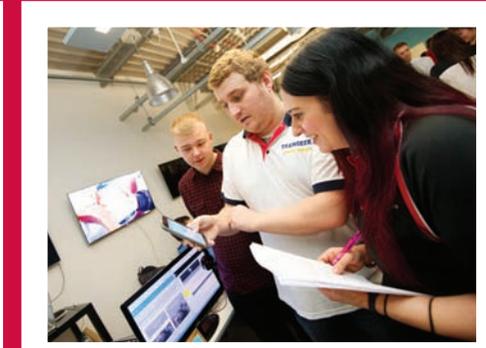
MA Interior Design Course Leader Steve Bennett added: "This collaboration fits in with the University's ethos to engage with businesses and communities in preparing our students for the real world. We are confident this is just the beginning of a mutually beneficial partnership which will go from strength to strength."



*"This collaboration fits in with the University's ethos to engage with businesses and communities in preparing our students for the real world."*

# A breeding ground for innovation

Business growth through innovation is a key challenge facing countries around the world. Universities like UCLan are playing a key role in sharing knowledge, creating economic impact and delivering value.



# Seeds of entrepreneurial spirit bloom

**Newly created enterprise initiatives are enabling staff and students to turn their commercial ideas into business reality.**



*Dr Alasdair Bremner and Professor David Binns.*

**2014 saw the University build on its aim to create a stronger enterprising and entrepreneurial environment throughout all areas of the institution.**

Shortlisted for 'Entrepreneurial University of the Year' in the 10th annual Times Higher Education (THE) Awards, the University has developed a number of new schemes which allow staff and students access to funding, commercial and legal support and training. A new intellectual property process, with disclosure, ideas assessment and future potential assessment has also been put in place and it's a recipe which is reaping dividends. The University continues to be ranked second in the UK for the number

of student start-ups businesses and first in UK for the number of business start-ups still trading after three years. Encouragingly the last 18 months has seen the University apply for 13 different product and service patents.

John Lonsdale, Head of UCLan Innovation and Enterprise, said: "We've enjoyed great success with our new programmes and support mechanisms. Some of these have included distinguished visitor programmes to encourage enterprising international collaboration, commercial training to boost staff and students confidence and the development of a Chinese subsidiary company to provide opportunities for staff and students in China."

The University is making particularly great strides in the area of business spin-out. The first of five exciting spin-out businesses, Alusid, is due to launch in the summer of 2015.

Alusid was born from research undertaken in UCLan's Silicates Research Unit by Professor David Binns and Dr Alasdair Bremner. The duo have perfected a process that combines crushed recycled glass and ceramics to create a sustainable and unique product made from up to 100 percent recycled waste. Applications are wide ranging and include facing bricks, tiling systems, building cladding and kitchen work-surfaces.

It was during a residency programme in Hungary, as an invited guest artist in 2004, that Professor Binns first came up with the inspiration for the product. "The creation of Alusid demonstrates how a small idea can grow into something large through research development and collaboration over a number of years," he explained.

"While the arguments for embedding sustainability throughout the construction industry are well established it often conflicts with a hunger for materials that offer new aesthetic properties. It is becoming increasingly important that alternative products are developed that both offer a striking visual appearance and are less reliant on virgin raw materials."

Dr Bremner added: "Our product alleviates the reliance on quarrying high volumes of virgin stone and will dramatically increase the amount of manufactured glass which can be recycled. In addition, because we use a heat process to combine the crushed glass and ceramic material rather than an industrial resin, the final product is very eco-friendly. It also means that the material we produce is still recyclable."

The aesthetic properties of the material are also unique. Colour and texture can be engineered to a client's specific requirements;

to either blend or contrast with existing materials, and can be fine or coarse in texture or embedded with larger 'decorative' fragments of mineral waste.

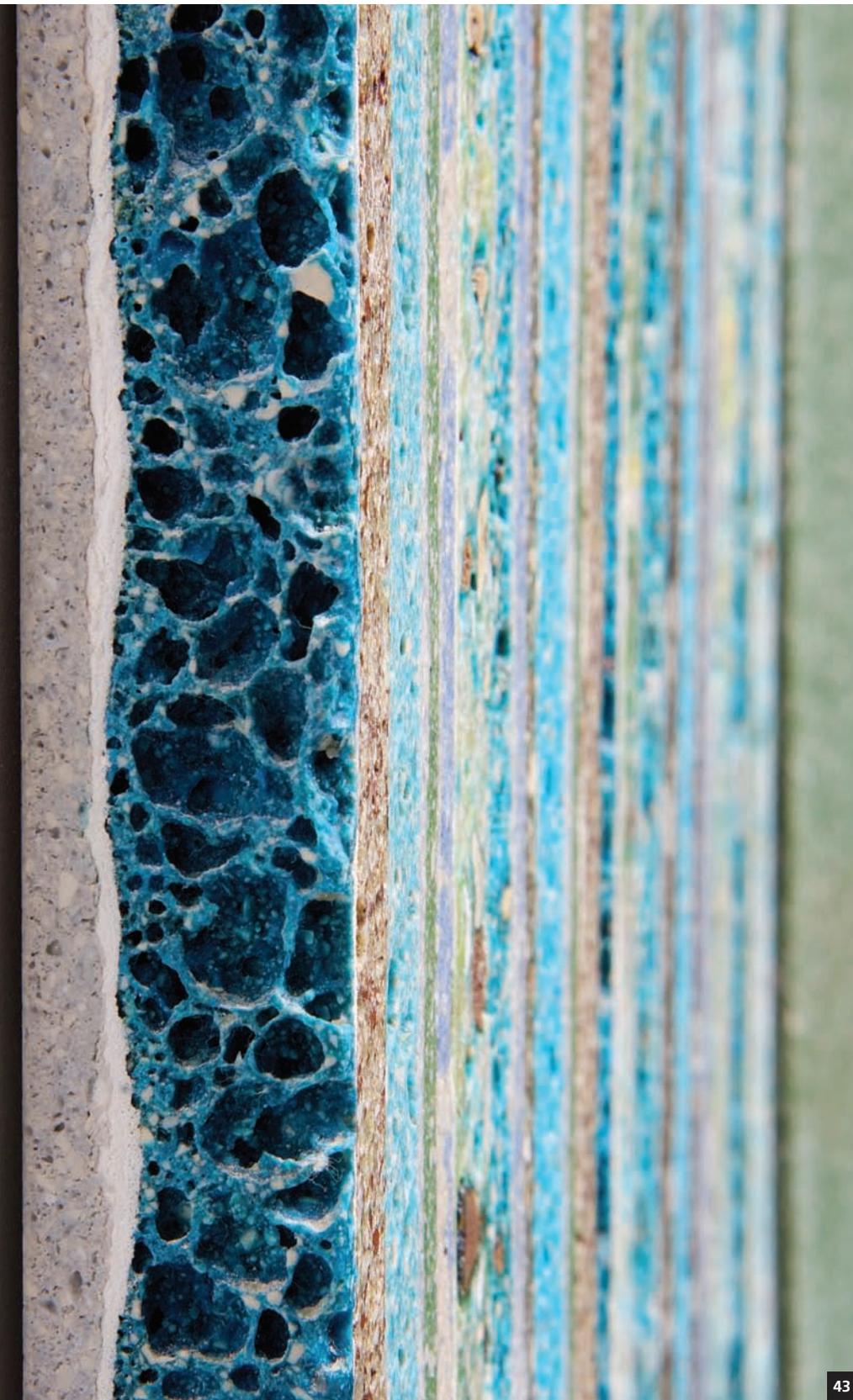
Raw materials for the product can also be sourced locally, avoiding the energy-related drawbacks of imported materials.

UCLan has worked closely with Frontier IP, a company that specialises in the commercialisation of university intellectual property. Frontier have secured investment funding for the business and are providing day-to-day management expertise.

Alusid has also entered into an agreement with Preston-based company 'Recycling Lives', who will supply recyclable raw materials, plant and labour to help manufacture the product on a commercial basis. Paul Finnerty, Recycling Lives, said: "We expect Alusid to become a key outlet for our waste glass and ceramic material and, as we are a significant recycler of screens, we look forward in particular to Alusid applying its novel process to our Cathode Ray Tube (CRT) screen waste. The product is a welcome addition to the industry where there are currently few viable and cost-effective outlets for leaded CRT glass. In achieving end of waste status, Alusid is well placed to succeed in this competitive business."

The successful germination of a research idea into a fully-fledged commercial business is a first for UCLan but in the years to come the University expects many more examples to follow.

UCLan's John Lonsdale concluded: "A culture of innovative thinking is key to our future success in this area and Alusid is a fantastic example of how, with the right team, research can be taken to market to meet a commercial need; in this case a product which is both aesthetically pleasing and demonstrating excellent green credentials."



# Engineering Innovation Centre to fuse academia with industry

**£30 million+ facility to boost regional and national economy through skills development, world-leading research and innovation.**

Recent research by the Royal Academy of Engineering has predicted that one in five young people will need to become an engineer by 2020 if the UK is to be able to address severe skills shortages and rebalance the economy towards advanced manufacturing.

In Lancashire the problem is even more acute. As one of the most intensive engineering and manufacturing areas in the UK, the region is in need of a catalyst to help galvanise a new generation of engineering talent and shape future engineering innovation growth.

In 2014 the University announced a bold and transformative plan to fill the void through the creation of the UCLan Engineering Innovation Centre (EIC). The £30 million+ state-of-the-art facility forms an early element of the University's £200 million Preston Campus Masterplan proposal. The new facility, to be completed in 2018, will create an integrated space for teaching, research and knowledge exchange, resulting in higher education provision in Lancashire which more closely reflects the economic priorities of the business community. The EIC will establish UCLan as a leading university for engineering innovation and will lead to an increase of 500 locally trained graduates per year. The University is particularly targeting the enrolment of women who are vastly under-represented in this field.

Frank Hayden, Professor of Advanced Manufacturing, has been appointed as the EIC's Director. During his career he has led the strategic and operational transformation of a number of high-technology businesses, including Land Rover, BMW, Airbus, BAE Systems and Rolls-Royce.

Professor Hayden said that with the constant state of development in manufacturing technology it is crucial that UCLan courses stay one or two steps ahead of the game. "The University has been in the city under various guises since the 1820s but what we're creating here over the next three to five years are facilities which will stand the test of time for the next 100 to 150 years," he explained.

The EIC will work closely with industry, both with SMEs and larger organisations operating throughout the region, and enhance its reputation as a key engineering innovation hub throughout Lancashire. Students will benefit from real life projects as the EIC opens its doors for companies to access its advanced facilities and specialist testing equipment.

Rob Wallace, Dean of the School of Computing, Engineering and Physical Sciences, said that engineering was a crucial industry not only to this area but across the world. "That's why we want to double the number of students studying on our engineering education programmes,

strengthen our industry links even further and offer support to a wide variety of small, medium and large manufacturing businesses," he explained.

Underlining the importance of the project both locally and nationally, the EIC has attracted significant external funding. For instance the Higher Education Funding Council for England contributed £5 million, money which is aimed at inspiring young people to take up Science, Technology, Engineering and Maths courses.

The EIC has also been identified as a signature project within the Government's Growth Deal programme. Via the Lancashire Enterprise Partnership the project was awarded £10.5 million to help achieve the scale and quality required for a nationally significant centre of excellence.

Chairman of the Lancashire Enterprise Partnership Edwin Booth said: "One of the challenges for the Lancashire economy is to ensure that it retains and attracts the most talented people in engineering. The scale of the new facility, breadth of the offer, and opportunities for gaining industrial experience will attract and retain high achieving students that currently choose to study engineering outside of Lancashire and the North West.

"The EIC will support the industries that underpin the Lancashire economy by creating a large pool of talented graduates available for local companies. It will provide a long-term economic asset for the area and play an important role in the UK's Industrial Strategy."

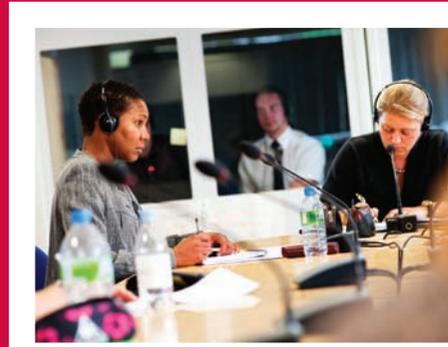
*The North West has a rich heritage in engineering and manufacturing and the University is excited at the prospect of a game changing facility which will drive innovation and the all-important transfer of knowledge for many years to come.*



*Computer generated vision of the £30 million+ Engineering Innovation Centre to be completed in 2018.*

# A global vision with student-centred learning

Internationalisation remains core to UCLan's ambitions. We are committed to developing the full international potential of our curriculum and ensuring that teaching, learning and research are accessible for students from cultures across the globe. UCLan staff enrich their teaching and research materials through international partnerships and experiences while UK students and the local community are encouraged to sample foreign language options which range from Mandarin and Japanese to Korean and Arabic.



# Life on the Ebola frontline

In 2014 UCLan's Dr Stan Ko was one of the first UK academics to join an Ebola diagnostic team in Sierra Leone.

Nurturing an international outlook has been a hallmark of UCLan's development for many years. Through its network of international partners, campuses, business and education links the University aims to not only develop talented graduates but also well-rounded, global citizens.

It is UCLan's view that universities also have a responsibility to society, not just locally but worldwide and volunteering expertise in a time of need is something the University encourages. In 2014 the rapid spread of the Ebola infection within countries such as Sierra Leone, Liberia and Guinea became an international crisis and UCLan's Dr Stan Ko, a Senior Lecturer in Medical Sciences from the School of Medicine and Dentistry, was one of the first UK academics who volunteered to join the Public Health England (PHE) Ebola response deployment to establish diagnostic services in Sierra Leone.

Dr Ko originally hails from Hong Kong and joined the British Army when he left school at the age of 18. After a couple of years of service he transferred to the Royal Army Medical Corps and started his medical science career. The UCLan academic has a multi-disciplinary biomedical science background and his research interests bear a central focus on the role of immune cells in disease initiation and progression including those of cancer and brain injuries.

As one of the first two academic volunteers from the UK, Dr Ko joined a team of scientists from the PHE and NHS for a five-week deployment involving the testing of over 400 clinical samples of the virus.

"The situation surrounding the Ebola epidemic was alarming and when I saw the PHE appeal I was determined to help," explained Dr Ko. "Along with a specialist team of virologists I was deployed to set up a diagnostic lab from scratch in Makeni, one of the worst hit areas, following a week-long intensive training course at PHE Porton Down, Salisbury.

"During the initial phase of the operation, we manually unloaded all the equipment and supplies we needed into an empty concrete hut built by the Royal Engineers. We then put procedures in place and checked meticulously before the live samples arrived. Understanding the level of danger we were facing when handling large numbers of clinical samples which may contain the virus, we remained completely focused at all times. We all knew that we could rely on each other for our safety and were always there to support each other. This team spirit had an undeniably positive impact on lifting morale to overcome the immense pressure we were facing every day," said Dr Ko.

He added: "Despite having their country affected by the Ebola outbreaks, people in Sierra Leone are working very hard to overcome the downturns with courage and determination. I was also overwhelmed by the whole international operation; seeing volunteers from so many nations working together for the greater good.

"It was an absolute privilege to work with the team and other international and local volunteers. Between us, there was a sense of mutual admiration that we were all there to work towards a common goal."

Dr Ko said that not only did he feel a moral duty to help with the global crisis but that the whole experience had led him to consider the importance of education from a wider angle.

"Academics have specialist skills that they can use to respond to a global crisis but beyond that we can use these experiences to inspire the next generation to make a valid contribution to society.

"In higher education, our focus falls primarily on the development of specialist and transferable skills in students' academic and professional progression. We should remember the original meaning of education which is to nurture our next generation in taking up their roles in our society, not only locally and regionally but also from a global perspective."



Dr Stan Ko pictured in Sierra Leone.

# UCLan launches International Institute of Korean Studies

Language teaching at UCLan has always been underpinned by world-leading research in linguistics and language. Augmenting this expertise is the International Institute of Korean Studies (IKSU) which opened its doors in 2014.

The formal launch event was the culmination of a two-day conference examining Korean security and the relationship between the North and the South of the country, the last unresolved conflict of the Cold War.

Over 30 of the world's leading authorities, influencers and commentators on Korea debated a wide range of security issues ranging from nuclear weapons to food, as well as wider security issues related to East Asia.

Professor Hazel Smith, Director of IKSU, said: "The launch of our institute places Preston and the North West as a major worldwide centre of excellence in the study of Korea. We will integrate all we do with public policy at every level - locally, nationally and internationally."



From l-r: Former United States Ambassador to South Korea Donald P Gregg; Minister Chang-Mo Kim, Embassy of the Republic of Korea; former UCLan Vice-Chancellor Professor Gerry Kelleher; Isabel Donnelly, Dean of the School of Language, Literature and International Studies; and Director of IKSU Professor Hazel Smith.

Former United States Ambassador to South Korea Donald P Gregg unveiled the plaque with Minister Chang-Mo Kim, the Deputy Chief of Mission of the UK Embassy of the Republic of Korea.

Mr Gregg said: "UCLan has really taken an international lead here. I have been hugely impressed by the spirit of the students and the substance of all the good work taking place within this new research institute."

IKSU brings together the University's wide research expertise on global Korea in the context of East Asian security including maritime law and conflict in East Asia, Korean language, Korean traditional music, sport, and the society, economics and international politics of North Korea. Over the last two years UCLan has also seen a surge in interest from students wanting to study the Korean language or an aspect related to it. Currently nearly 120 students are enrolled on Korean or Korean-related programmes.

Professor Smith added: "IKSU takes contemporary Korea – North and South – seriously. We will be getting away from the tired old stereotypes to engage in robust, careful research about the politics, economics and society of North Korea. We will also focus on the vibrant culture and economic dynamism that characterises contemporary South Korea, as well as the

politics and international dynamics of inter-Korean relations."

Lord David Alton is Patron of IKSU and Chair of the All Party Parliamentary Group on North Korea. He attended the launch and added: "I have travelled to both North and South Korea on many occasions and found it to be a place where all those living on the Korean peninsula long for a lasting settlement based on justice, peace, coexistence and mutual respect.

"For the people of those nations, who for 60 years have lived side-by-side and experienced such contrasting fortunes, it may still seem like the impossible dream. By reaching out through mutual understanding and informed research, initiatives such as IKSU will make a real difference."

IKSU has provided the foundation for a new UCLan Master's Degree in North Korean Studies, the first in Europe. The programme will investigate the significant impact of both Koreas on contemporary global politics, economic and society; ranging through the consequences of the North Korea nuclear programme to the huge successes of South Korean business worldwide.

*"The launch of our institute places Preston and the North West as a major worldwide centre of excellence in the study of Korea. We will integrate all we do with public policy at every level - locally, nationally and internationally."*



# Graduation and Honorary Awards

The University's Degree and Award Ceremonies at Preston Guild Hall are the climax of the academic calendar. Over the course of a year, more than 6,000 graduates receive deserved recognition for all their hard work from the University, family and friends.

# Honorary Awards

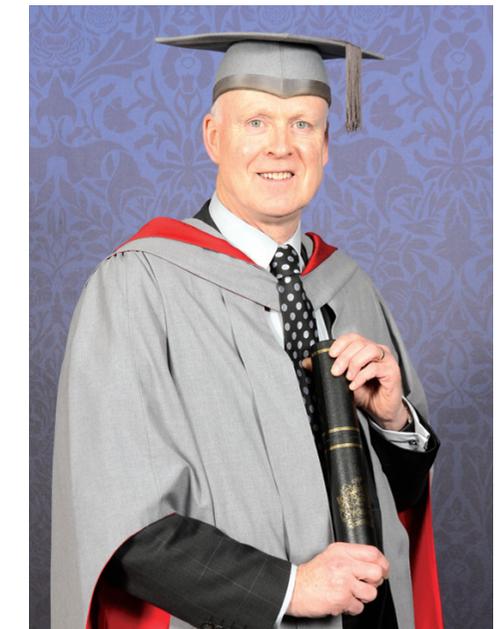
During each graduation ceremony the University confers Honorary Fellowships on distinguished citizens who have made significant contributions to their field or who have strong links with the region. In 2014 Honorary Fellowships were conferred to the following individuals:



**Margaret O'Donoghue** was recognised for her contribution to the community. The Prestonian started her career as a nurse where she gained considerable experience in oncological practice and cancer care. Noticing deficiencies in the treatment of cancer patients, she established Cancer Help (Preston) Ltd and created Community Cancer Centres in Preston and Garstang. Through these specialist centres, more than 6,000 local cancer sufferers receive free visits or contact every year. She was also a founder member of St Catherine's Hospice and subsequently became Chair of the Board.



**Chris Kenny** was acknowledged for his contribution to the community. In 1975 he joined Merseyside Fire Service and succeeded in a number of challenging roles, including being on the front line during the Toxteth riots. In 1992 he enrolled on UCLan's fire engineering degree and went on to become one of the first officers in the country to use academic qualifications, coupled with technical experience, to attain chartered engineer status. In 2000 he transferred to Lancashire Fire & Rescue Service and rose through the senior ranks until he was appointed Chief Fire Officer in 2012.



**Chief Constable Steve Finnigan CBE QPM** was honoured in recognition of his contribution to the community. The Liverpoolian spent 25 years working his way up the ranks from Constable to Chief Superintendent with Merseyside Police. During his time with the force he was involved in many significant events including the Miners' Dispute and the murder of James Bulger. In 2001 he joined Lancashire Constabulary as Assistant Chief Constable. He was soon promoted to Deputy Chief Constable and then appointed as Chief Constable. In 2006 he was awarded the Queen's Police Medal and in 2010 he received a CBE.

# Age is no barrier to learning for great-grandmother Marion

**Graduation is the culmination of years of hard work for thousands of UCLan students. The new graduates are success stories in their own right but among them are a select few who have extra special stories to tell.**

**One example is a great-grandmother who proved you are never too old to learn after she graduated with a degree in history and politics more than 50 years after leaving school.**

Marion Mather was awarded an honours degree following a life-changing decision to return to education. The 67-year-old spent her working life sewing nappies, spinning cashmere and working in shops before heartbreak hit.

She commented: "I lost my husband Alan seven years ago and didn't want to be sat in on my own all the time so I booked myself on to a beginners' computer course and everything spiralled from there.

"I'm dyslexic but of course when I was at school it wasn't recognised. I wasn't allowed to sit the 11 plus exam and at reading time I was always told to get my colouring book out so returning to education was a big step for me.



"After completing the computer course I did another one to bring my English and maths up to standard and I was so pleased when I finally got a GCSE A for English and C for Maths. I'm glad I was finally able to prove that I am capable and it gave me something else to focus on."

Marion's success led her to a creative writing course and after her tutors suggested entering higher education she was over the moon. After passing a foundation course at Runshaw College, she signed up for her three-year degree at UCLan and has never looked back.

She said: "I've loved every minute of it from the studying to the fantastic friends I've made along the way. The students made it for me; I was the oldest there, even older than the tutors, but everyone was really friendly and supportive. I couldn't have asked for anything more."

**Another coup for UCLan was to see a group of law students becoming the first cohort to graduate from a unique legal course.**

The twelve MLaw graduates, five of which graduated with First class honours, spent four years studying full-time at the Preston Campus. The course is unique because it has combined two courses, the undergraduate law degree (LLB) with the postgraduate Legal Practice Course (LPC), into one.

Claudia Doherty was one of the successful graduates and is now working as a specialist solicitor. The 22-year-old said: "It's been a fantastic course to be part of and I know we're all delighted to be the first ones graduating. The four-year programme has been great for studying because it's made modules more integrated and it's also been more financially viable."

As well as building practical legal knowledge, the course trained students to develop their interviewing, negotiating and debating skills. In their final year they took part in two supervised pro-bono legal clinics, one general and one business-focused, to gain invaluable hands-on experience of life as a solicitor.

Jane Anthony, Dean of the Lancashire Law School, said: "We're all incredibly proud of this cohort. This is a very innovative course which integrates the academic and practical side of legal training into one four year Masters programme. Students have a fantastic learning experience and benefit from four years of student finance, rather than having to fund the Legal Practice Course privately. These students have certainly made the most of all of their opportunities – they have managed to fit in educational trips to Brussels, Cyprus and Geneva along the way. I am sure they all have illustrious careers in front of them."



*"These students have certainly made the most of all of their opportunities – they have managed to fit in educational trips to Brussels, Cyprus and Geneva along the way. I am sure they all have illustrious careers in front of them."*



# UCLan facts and figures: Students and study

## TOTAL STUDENT NUMBERS



2012/13 **28719**  
2013/14 **26586**

## Ethnic group



	2012/13	2013/14
Asian	4167	3988
Black	856	928
Mixed	597	596
Not Known	539	774
Other Ethnic	312	371
White	22248	19929

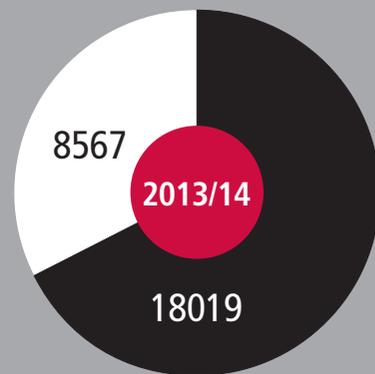
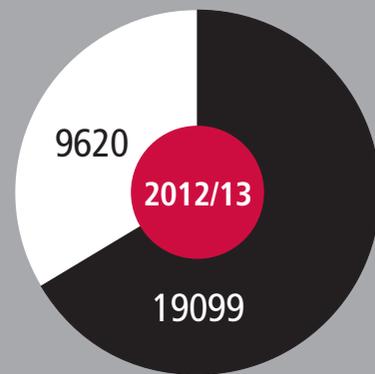
## Level of study

	2012/13	2013/14
Postgraduate	4713	4589
Undergraduate	24006	21997



## Mode of study

■ Full Time & Sandwich    □ Part-Time



## Student gender 2013/14

Female 14953    Male 11633

## Student age on 1 September

	2012/13	2013/14
Under 18	13	23
18 to 20	10396	9536
21 to 24	7376	6941
25 to 29	3364	3054
30+	7570	7032



## Subject of study

### Agriculture & related subjects

2012/13: 817  
2013/14: 623

### Architecture, building & planning

2012/13: 968  
2013/14: 786

### Biological sciences

2012/13: 1534  
2013/14: 1666

### Business & administrative studies

2012/13: 3426  
2013/14: 3152

### Combined

2012/13: 65  
2013/14: 0

### Computer science

2012/13: 721  
2013/14: 579

### Creative arts & design

2012/13: 3083  
2013/14: 2700

### Education

2012/13: 1997  
2013/14: 1705

### Engineering & technology

2012/13: 1309  
2013/14: 1114

### Historical & philosophical studies

2012/13: 330  
2013/14: 310

### Languages

2012/13: 1544  
2013/14: 1453

### Law

2012/13: 1097  
2013/14: 1172

### Mass communications & documentation

2012/13: 782  
2013/14: 940

### Mathematical sciences

2012/13: 143  
2013/14: 133

### Medicine & dentistry

2012/13: 501  
2013/14: 608

### Physical sciences

2012/13: 2039  
2013/14: 1984

### Social studies

2012/13: 2666  
2013/14: 2541

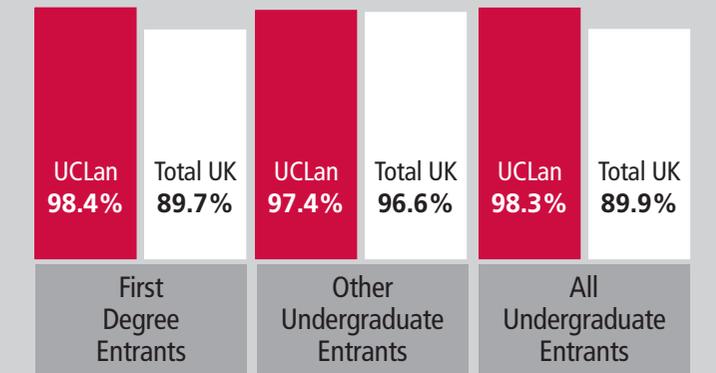
### Subjects allied to medicine

2012/13: 5696  
2013/14: 5119

■ 2012/13    ■ 2013/14

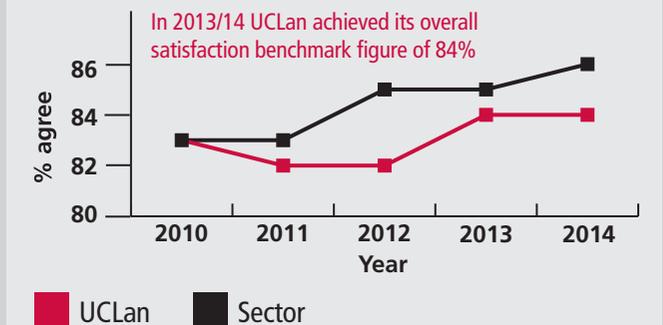
## Participation

Under-represented groups in Higher Education, 2013/14 entrants  
Percent of young, full-time students from state schools or colleges



## National Student Survey

Question 22 Score (Overall Satisfaction) - % agree  
UCLan and Sector Comparison - 2010 to 2014



## Graduate and student start-up businesses created at UCLan

2009-2010 **162**

2010-2011 **158**

2011-2012 **192**

2012-2013 **226**

2013-2014 **210**



Source: Higher Education Business and Community Interaction Survey

# UCLan facts and figures: Staff and finances

## Staff Profile

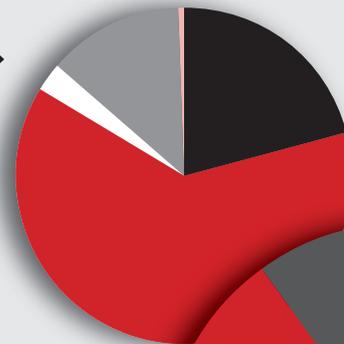
Data based on 1 August 2014 and includes hourly paid lecturers and casuals

Gender	Academic	Management	Support	Interns	Total
Female	578	50	926	69	1623
Male	603	84	465	47	1199
<b>Total</b>	<b>1181</b>	<b>134</b>	<b>1391</b>	<b>116</b>	<b>2822</b>



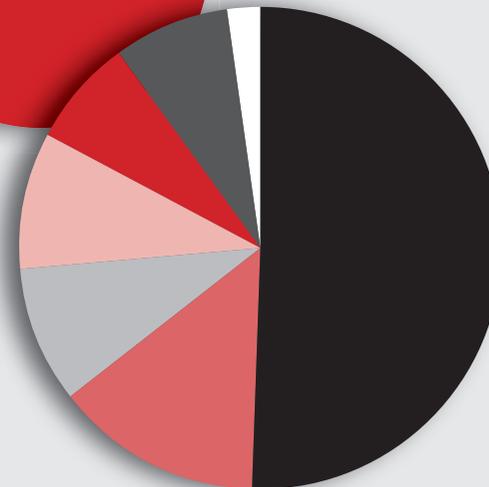
## UCLan income

■ Funding council grants	42,443
■ Tuition fees and education contracts	127,185
■ Research grants and contracts	5,831
■ Other income	26,341
■ Investment income	875
<b>Total</b>	<b>202,675</b>



## UCLan expenditure

■ Academic Schools, including Research	95,439
■ Academic Support, including Bursaries & SU Grant	26,250
■ Running the Estate	17,376
■ Library & IT	17,174
■ Residences & Trading areas	13,416
■ Corporate Services	14,767
■ Other costs	3,955
<b>Total</b>	<b>188,377</b>



In 2014 UCLan hosted the Lancashire Science Festival for the third time and it proved to be more popular and varied than ever before.

Through the theme of 'Power Up!', the University welcomed nearly 10,000 visitors for the three-day science extravaganza. For many, both young and old, it was an electrifying experience.





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