Video artist and alumna Rachel Maclean

Food security | Hyperloop | Dementia
University of Edinburgh alumni are entitled to a 10% discount on all short courses that make up the Festival of Open Learning in summer 2017. Choose from more than 100 courses, including:

- music
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- philosophy
- storytelling
- languages
- video editing

To claim your discount, book online via the MyEd portal, or use your alumni card when booking on campus.

Book online: www.myed.ed.ac.uk
As I prepare to demit office, after 15 years as Principal of the University of Edinburgh, I want to offer my sincere and heartfelt thanks for your contribution to the life of your University.

During my time as Principal it has been my great pleasure to meet many of you at events on campus, across the UK and throughout the world.

The valuable impact of Edinburgh’s alumni in all walks of life, and in nearly every country on earth, is more important than ever as we face today’s great challenges and opportunities.

It is with gratitude and great fondness that I wish you all the very best as you carry the spirit of your great University wherever it takes you.

Warmest regards,

Professor Sir Timothy O’Shea
Restored McEwan Hall set to host glorious graduations

This summer’s graduations are taking place in the newly refurbished McEwan Hall, ahead of the completion of the £33m restoration project which will conclude later this year.

Built between 1888 and 1897 through the largest single private donation in the University’s history, from the brewer William McEwan, the hall is designed in Renaissance style with vivid murals by William Mainwaring Palin painted throughout its interior. The restoration will return the building to its original status as a major asset for both the University and the city of Edinburgh. In addition, Bristo Square is being landscaped as part of the works and will have improved accessibility and more social space.

This summer also sees the relaunch of another historic building. Originally opened in 1763, St Cecilia’s Hall is the oldest purpose-built concert hall in Scotland and contains one of the world’s most important collections of historic musical instruments. Owned by the University, the new St Cecilia’s Hall museum will offer more performances in the building’s elegant oval concert hall, increased access through longer opening hours and new ways for visitors to enjoy the venue.

For more information, visit www.ed.ac.uk/estates and www.stcecilias.ed.ac.uk

Photo: The interior of the McEwan Hall during the restoration process. Photo by Neil Hanna.
A fond farewell to the Principal

Principal and Vice-Chancellor Professor Sir Timothy O’Shea announced last year his intention to demit office.

After 15 years at the helm, Professor O’Shea leaves the University in a much stronger place. Research performance is better than ever, student demand at home and abroad continues to grow, and our position in all the global rankings puts the University among the world’s best.

It is no surprise, given the Principal’s background as a computer scientist, that the University has embraced the opportunities of new technologies as few others have. In 2014 when Debrett’s, in association with The Sunday Times, named the top 500 most influential people in the UK, Professor O’Shea was listed in the top 30 in Technology.

“I firmly believe that Edinburgh’s growth has allowed us to exert our influence, assert our expertise and realise our ambitions in a much wider array of fields over the past 15 years,” Professor O’Shea said. “It is a success story which is a testimony to the vision and aspirations of the whole University community – staff, students, alumni, supporters and friends – and leaves the University very well placed for the future and the challenges ahead.”

Professor Peter Mathieson has been appointed as the next Principal and Vice-Chancellor of the University. He is currently President and Vice-Chancellor of the University of Hong Kong. Professor Mathieson’s background is in medical research and teaching, specialising in renal medicine, and before taking up the post in Hong Kong he was Dean of the Faculty of Medicine and Dentistry at the University of Bristol for six years.

“Like Hong Kong, Edinburgh is a truly global institution with a great reputation for excellence in teaching and research. Working together with students, staff and supporters, I am confident we can build on that reputation in the future,” said Professor Mathieson.

Professor O’Shea has kindly agreed to remain in post until Professor Mathieson joins the University in early February 2018.

The University and Europe

On 23 June 2016 the UK electorate voted in a national referendum to leave the European Union. As the UK formally enters talks to leave the EU, the University is taking a positive and proactive approach to help ensure that the best outcome is achieved for our staff and students.

There have already been reassurances from the UK and Scottish governments on several significant areas, including residency status for current EU staff and their families, European Commission funding for collaborative research projects, and confirmation of tuition fees for students joining in 2017 and 2018.

In addition the University has confirmed that all 2018-19 entrants whose degree includes compulsory study abroad will be guaranteed funding support for their study abroad.

The University has always had a commitment to diversity and a community in which students and staff feel valued and welcome. Our international students now represent 42 per cent of our total community, coming from 156 nations, with 33 per cent of our staff coming from 105 nations. We are also dedicated to a life-long relationship with our worldwide alumni community of more than 250,000 graduates. Our alumni-focused activities in Europe and beyond continue to strengthen, as evidenced by recent vibrant alumni events in Brussels, Berlin, Helsinki and elsewhere.
Celebrating 150 years of rowing

Olympic medal winner Dame Katherine Grainger returned to her rowing roots to mark the 150th anniversary of Edinburgh University Boat Club.

Britain’s most decorated female Olympian was guest of honour at a weekend of celebrations in February for the club where her rowing career began as an undergraduate in 1993.

This year she was named Dame Commander of the Order of the British Empire in the Queen’s New Year’s Honours list in recognition of her services to rowing and charity.

Dame Katherine – who completed a law degree at Edinburgh and postgraduate qualifications in Glasgow and London – had never rowed before joining the Edinburgh club. She went on to become the first British woman to win five medals in five successive Olympic Games, including a gold medal at London 2012.

“I love coming back to Edinburgh to support the Boat Club. All of my best memories of the city are linked to my time spent at the club. It kick-started my rowing career. Everything that’s happened to me in the past 20 years as a professional athlete stems from the amazing time I had here,” Dame Katherine said.

Also taking part in the celebrations was University of Edinburgh medical student and Boat Club member Polly Swann, who won a silver medal in the women’s eight at the Rio Olympics in 2016.

Jim Aitken MBE, Director of Sport and Exercise at the University, said: “Dame Katherine is an incomparable talent and it was wonderful to have her here to mark the Boat Club’s 150th anniversary. The weekend was a great chance to celebrate the success of members and mark the club’s fantastic progress over the last 150 years.”

Edinburgh University Boat Club is one of the biggest sports clubs on campus with 230 members. It is one of only a handful of clubs in the UK to host a High Performance Programme supported by British Rowing. The programme was awarded in recognition of the club’s excellent track record in nurturing world-class rowers.

In May, Edinburgh rowed to victory over Glasgow rivals in the Scottish Boat Race – the third oldest boat race in the world. Edinburgh took the overall trophy after winning all seven of the races, which included beginners, alumni and senior men and women from the Boat Club.

Join the club

Alumni and friends of the University of Edinburgh are eligible to become members of the Penn Club, the University of Pennsylvania’s private club in New York.

Located on 44th Street, midtown Manhattan, the Penn Club offers its members exclusive access to a wide range of elegant facilities and outstanding services – from entertaining clients with gourmet dining, to relaxing with a massage, to utilising one of its more than 150 reciprocal clubs worldwide.

The 13-storey clubhouse, just a short walk to Times Square, Bryant Park and Grand Central, has two restaurants, a fitness centre, 39 overnight guest rooms, various meeting and banquet spaces, a business centre and more.

To take advantage of our new affiliation with the Penn Club of New York please visit the club’s website where you can apply online to become a member. For more information, visit www.pennclub.org/membership

Please note: The Penn Club of New York will verify applicants’ alumni status with the University.
Strengthening long-standing links with Southeast Asia

The University has strengthened links with Southeast Asia by establishing a new base in Singapore.

The Southeast Asia Office will help the University work with partners in education, business and government across the region. The University has long-standing links with Singapore through its many partners, supporters and alumni. It welcomed 293 students from Singapore in 2016/17 and has a 1,000-strong alumni community living in Singapore.

The University operates a successful student internship programme with Singapore’s Nanyang Technological University. It enables students to undertake placements with Syngenta in India, GlaxoSmithKline and the Institute of Chemical & Engineering Sciences in Singapore. Edinburgh also has collaborations with the National University of Singapore.

Indonesian students at Edinburgh in 2015/16 totalled 114 – the highest number at any Scottish university. In 2013, the University signed an agreement with the Indonesian Ministry of Education’s Directorate General of Higher Education. Both parties participate in a postgraduate scholarship scheme that will run until at least 2018.

Edinburgh welcomed 123 students from Thailand in 2016/17 and regularly engages with more than 500 Thai alumni. The University has existing research and teaching partnerships with a number of institutions and groups. These include the Thai government’s Ministry of Public Health and Bangkok’s Mahidol University and Chulalongkorn University.

Audrey Kon will head up the new office. Born in Singapore, Audrey was formally Regional Head – Southeast Asia for the University of Wolverhampton.

The office joins Edinburgh’s overseas network, which includes bases in North America, Latin America, South Asia and East Asia. “Each office is responsible for ensuring that we engage meaningfully in each region, that we build partnerships that will raise our aspirations and impact, and that we are recognised as one of the world’s leading universities,” said Professor James Smith, Vice-Principal International. “Our increased presence in Southeast Asia and other regions will ensure we are well placed to respond to opportunities in the future.”

Appreciating our architecture

Recent work carried out by Historic Environment Scotland in collaboration with the University of Edinburgh has shed new light on the University’s architectural legacy.

From archive material which has not been published before to stunning new photography, a new book entitled Building Knowledge: An Architectural History of the University of Edinburgh by authors Nick Haynes and Clive Fenton tells the story of the first college buildings through to the magnificence of Robert Adam’s Old College and beyond, right up to the present day.

The Principal, Professor Sir Timothy O’Shea, writes: “This book will add to the general understanding of our buildings and should add further to the pleasure that they offer. I encourage you to read this book. Then climb to the top of Arthur’s Seat and admire our University buildings scattered across the city.”

Building Knowledge: An Architectural History of the University of Edinburgh will be available to buy from the University’s Visitor Centre and Historic Environment Scotland’s online shops. Proceeds go to the O’Shea Global Scholars Initiative (see page 36).

www.gifshop.ed.ac.uk
www.historicenvironment.scot

Find out more about the University’s global connections at www.ed.ac.uk/global
Photo: Singapore skyline by iStock/Deejpilot.
IN YOUR FACE

Video artist and alumna Rachel Maclean

Photo courtesy of Rachel Maclean.
Rachel Maclean is taking the contemporary art scene by storm with her startling short films, which tackle big themes through a host of intriguing, and at times disturbing, characters all played by herself. At a team preparation weekend in the Scottish Borders in April, the woman behind the mask talked to *Edit* about her latest work, *Spite Your Face*, ahead of its premiere at the world-renowned Venice Biennale.

The Haining is a grand Georgian mansion in the Scottish Borders. Upon first encounter, it is a place of unchallenged serenity. It nestles atop a gentle rise and gazes upon a forest-fringed loch. In the April morning sunshine, its Palladian architecture almost coos with contentment. Linger for a moment, however, and all is not what it seems. At the loch’s edge, bluebottle flies cluster and buzz over stagnant pools. Inside, plasterwork flakes off the walls in sparse rooms. Look closely and decay peeks through. It is a perfect stage, then, for Rachel Maclean to make an entrance. With a crunch of gravel under tyre, her car pulls into the drive. The artist has just flown in from Munich where she was attending an awards ceremony.

Despite her 3am start she cheerfully and affectionately administers hugs to her waiting team. They have much to discuss. She is preparing for what is arguably the pinnacle of Maclean’s already flourishing career, the internationally renowned La Biennale di Venezia.

Now in its 57th year, the Venice Biennale could be described as the art world’s Olympic Games: countries select an individual or collective that best represents their country’s art scene and then puts on a show in the great civic artwork that is Venice. To the initiated, it is simply the place to be: curators, art journalists, gallery owners, buyers and all the other whirring parts that make the art world tick congregate in one place to collectively take stock.

“My first introduction to Venice was through playing the video game *Tomb Raider,*” she says, a comment that befits a 29-year-old. Since 2003, in recognition of its own world-class art scene, Scotland has sent artists to Venice as part of the Scotland + Venice partnership, run by Creative Scotland, the National Galleries of Scotland and the British Council.

Maclean, a video artist, is this year’s selection. Having graduated from Edinburgh College of Art (ECA) in 2009, she is Scotland + Venice’s youngest ever representative.

Wearing white-rimmed glasses and with a disarmingly goofy laugh, Maclean makes her way into The Haining. In one room a digital projector sits silently. The previous night, *Spite Your Face*, her 37-minute film commissioned for the Biennale, was screened for a select group of 15 students. Nursing lukewarm coffee and lots of questions, they are waiting for her in the library. Bright sunlight streams through ceiling-to-floor windows.

Chosen from art schools across Scotland, including five from ECA, this group is Scotland + Venice’s Professional Development Programme, an initiative spearheaded by the University’s Talbot Rice Gallery. They are charged with invigilating Maclean’s show in Venice for its entire run in the deconsecrated Chiesa di Santa Caterina. Pairs of students are visiting Venice until the end of November.

The library soon fills with chatter. *Spite Your Face* has given them a lot to talk about.

The film is the story of the rise and fall of Pic, a young man who is seduced and consumed by the power of lies. It infuses the story of Pinocchio, sprouting nose and all, with themes dominating contemporary politics: truth, populism, inequality, individualism and misogyny.

While she was making her previous film, *It’s What’s Inside That Counts*, the vote for Brexit happened. From this point on, Maclean says it was inevitable that her work for Venice would be political. *Spite Your Face* is an artist coming to terms with a fundamentally altered world.

“It’s what I like about being an artist,” she says. “You come into a situation, like Brexit, while you are still digesting things that are still happening. It helped me process what was going on and my thoughts about it, but through an artwork.”

The film is visually stunning. In comparison with her previous day-glo work, Maclean has used a limited palette of gold and blue, “to reflect the luxury culture of Venice,” she says. “There’s a lot of glitter.” It is less surreal kids TV, more Baroque.

Maclean has always mixed the child-like with darkness. *Spite Your Face*
“Seeing Rachel at the Biennale is amazing. It encourages young artists to push the boundaries of their own work.”

Isotta Page, ECA student
The surface is glossy and infantilised but underneath lurks something ancient and diseased. In keeping with her previous acclaimed works, such as The Lion and the Unicorn and Feed Me, which featured in British Art Show 8, Maclean plays all the characters in Spite Your Face herself.

It was a process initially born out of a lack of budget, but has now grown into a unique style. “It’s developed into this absurd, bizarre way of making work where I can create these strange plastic avatars that are me, but aren’t,” she says. “I like the idea of identity being a kind of masquerade from the outset.”

“I didn’t think it was possible to exhibit at the Biennale at such a young age,” she says. “Seeing Rachel there is amazing. It encourages young artists to push the boundaries in their own work and encourages us to not be afraid to explore difficult questions we face in everyday life. The fact that she is very young and a woman is incredibly inspiring for me.”

Maclean fondly remembers her time studying drawing and painting in Edinburgh. Her work for the 2009 degree show is still talked about in the corridors and studios of ECA’s home at Lauriston Place.

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Maclean fondly remembers her time studying drawing and painting in Edinburgh. Her work for the 2009 degree show is still talked about in the corridors and studios of ECA’s home at Lauriston Place.

“It was a very exciting time,” she says. “I had a really good year group with loads of interesting friends doing all sorts of exciting stuff and supporting each other. And you grow up a hell of a lot in four years. It’s a very intense experience: you learn so much and develop so much over a short period of time that stands you in good stead for what follows.”

The University’s links with this year’s Biennale stretches beyond Maclean’s CV. Her show is being curated by Alchemy Film & Arts in partnership with Talbot Rice Gallery and the University itself.

In spring 2018 Talbot Rice will play host to the UK premiere of Spite Your Face, which the University has purchased for its contemporary art collection. Elsewhere in the labyrinthine streets of Venice, another ECA graduate will be representing their country. Takahiro Iwasaki, who graduated in 2005, has been chosen by Japan for its national pavilion.

Talbot Rice’s involvement with the Biennale doesn’t end with Scotland + Venice. The Gallery’s director, Tessa Giblin, is the curator and commissioner of Ireland’s show. As a veteran of several Biennales, Giblin is keenly aware of this opportunity’s scale.

“For Talbot Rice Gallery to be involved in two pavilions this year is absolutely extraordinary,” she says. “It’s how our profile will grow, but it is also about what we will learn while doing it. It will change the Gallery. I hope that our horizons shift and stay out there – to include these international dimensions and audiences. What we will bring back from Venice will be very exciting.”

As the weekend at The Haining draws to a close, Maclean can be found sitting on the steps outside the building. Bright purple flowers jut through crumbling masonry. She is beaming after meeting the students. “It’s been really exciting to hear their reaction,” she says. “It’s nice to see the work through their eyes.”

She is also thinking about what lies beyond Venice. A break. And a potential feature film. She is in discussions with a producer and is planning to write a treatment.

“I’m not sure what it would look like,” she says. “I’d like to keep the aesthetic. That’s important to my work. But I’m interested to see what I could do with film. I’m also keen to work with actors, sets and moving cameras on screen. That would change my process totally. I’m always excited about ways in which I can switch things up a bit so I’m not producing the same thing over and over.”

As the sun dims and the air chills, Maclean leaves The Haining. Trains, planes and time will soon take her to Venice and beyond. But in one corner of the City of Water, for the months to come, her film will echo again and again. It is a work worth repeating.
“I like the idea of identity being a kind of masquerade from the outset.”

Rachel Maclean
Faced with a rapidly growing global population with evolving dietary demands and food choices, the agri-food sector, researchers and specialists are under more pressure than ever to adapt agricultural methods to feed more mouths while also protecting the planet. In the *Edit* interview, Professor Geoff Simm, Director of the University’s Global Academy of Agriculture and Food Security, talks about facing up to the challenges and finding solutions.
Feed the world
What is global food security?
The greatest challenge facing global agriculture is to achieve food security while protecting the planet. Food security is about all people having access to a safe, affordable and nutritious supply of food at all times. It sounds very simple when you say it quickly but it’s one of the most complex challenges facing society.

What are the key challenges facing global food security?
Global food insecurity is a complex problem. It’s impacted by many other global challenges. It’s also exacerbated by the fact that the human population is growing dramatically. It’s about 7.5 billion now and we’re expecting it to top 11 billion by the end of the century. Feeding so many more mouths is going to be a challenge.

Not only that, but people are expecting different types of diets. Many people in developing countries emerging from poverty aspire to a western diet, which typically means more livestock products. This creates more pressure on food producing systems, because animal products typically need more land than crop-based products. While much agricultural land globally is used to grow livestock feed, livestock also use by-products, and ruminants, such as cattle and sheep, have the unique ability to produce high-quality human food from the grassland that occupies the majority of farmland globally. Livestock also have a pivotal role in some of the poorest societies globally, and here even small amounts of livestock products can have a dramatic effect on the physical and cognitive development of children.

While research and innovation will help improve the efficiency with which we use our natural resources, changes in consumption behaviour will be needed to achieve sustainability. So we need work in human behaviour, in nutrition and health as well as in agriculture, to develop sustainable healthy diets.

That’s challenging enough but we’re trying to deal with these issues at a time when the climate globally is changing as well. That’s putting a lot of pressure on those parts of the world that have traditionally grown much of their own food. So trying to understand that dynamic is a big challenge. Agriculture already puts a lot of pressure on the environment so we need to find a way to meet the aspirations of that growing population in a way that’s not destroying the planet but will deliver that safe and affordable food for all.

As well as the physical challenges of producing food, what other issues face food security?
Food security is about more than the physical challenges, though they’re very plentiful as we’ve discussed. But, actually, food is a hugely important cultural issue. There are social and political implications too. The whole business of food security is central to civil society. Over the last few decades we’ve seen civil unrest in many countries that have had big rises in food prices, so it’s important to global security that we improve food security.

There’s a huge paradox around food security in that we have around 800 million people on the planet who are starving yet at the same time around 2 billion who are overweight, so understanding how diet and health interact, understanding how food choices affect health in the West as well as improving food security for those who are starving is part of the Global Academy of Agriculture and Food Security’s ambition. The current crisis in east Africa provides a very stark reminder of the scale and impact of the food security challenge.

What role can the Global Academy of Agriculture and Food Security play in tackling these issues?
Edinburgh has many strengths in biological sciences, geosciences, informatics, biomedicine, politics and society, all of these areas have contributions to make to understanding and improving food security.

For instance, the Royal (Dick) School of Veterinary Studies at the University has a major international reputation and in particular has contributed much to animal health in many of the low- and middle-income countries around the world over the last few decades. The Global Academy is about building on that foundation and broadening it to many other areas where the University and its partners can contribute as well.

Modern developments in genetics at the Roslin Institute and elsewhere has a huge role to play, while data science is having a huge impact on many branches of society and also can have a big role in tackling global food insecurity.

And in geosciences, understanding the changing climate, and how we develop our crop and livestock systems to adapt to that is very important. We recently hosted a workshop in Kenya looking at the role of earth observation – from satellites, drones and sensors – in helping to develop climate-smart agriculture, and we see this as a promising area of future research.

The Academy will be a melting pot where each of these areas can come together, share ideas and develop new interdisciplinary solutions to some of these really pressing challenges.

Research is obviously crucial; how important is teaching?
If we’re going to face these challenges that are massive in scale, it’s important that we mobilise and train students, who will become tomorrow’s leaders in tackling these issues. These problems are interdisciplinary and interconnected and require a new approach from what we’ve expected of our students until now.

The University already has a fantastic reputation in delivering online distance and face-to-face learning and we’ll be developing new courses designed to help develop this next generation of leaders, including in the countries most affected by food security issues.

We plan to launch several new undergraduate programmes relevant to global agriculture for first student entry in 2018; and as we start to see students coming through our education programmes who are helping to find solutions to these global challenges, then we’ll know that we’re starting to make a major contribution.

Find out more: www.ed.ac.uk/global-agriculture-food-security
“Understanding how food choices affect health in the West as well as improving food security for those who are starving is part of the Academy’s ambition.”
An estimated 47.5 million people live with dementia worldwide, and by 2050 this figure is set to rise to 135 million*. A progressive disease that currently has no cure, dementia places a huge burden on families, carers and health systems. However, all this could change. *Edit* meets the inspiring individuals who through their research, study participation and charity work are improving treatment and reducing dementia risk.

Today, the total estimated annual global cost of dementia is $818 billion, and it will become a trillion-dollar disease by 2018. If dementia care were a country, it would be the world’s 18th largest economy.*

These figures make startling reading. But for those who have been affected by dementia, for those who have found it so rudely encroaching on their family life, there is almost always a number that matters more than any other: one. One mother, one father, one spouse, one friend. One mind that is slowly corroded, one personality so cruelly changed.

Yet in the face of this devastation, there is a renewed sense of hope. A radical movement aims to change both our perception and management of dementia, so that it is no longer feared as an inevitable condition of older people.

Globally, efforts have begun to challenge that long-held view, empowering young people to take control of their brain health and protect it decades before any symptoms appear. By tackling dementia risk in mid-life, and developing new treatments that knock out the earliest signs of disease, the goal is to rid the world of this illness.

Here four people who are making a real difference to the way we perceive and manage dementia share their knowledge, experiences and hopes for the future.
Dementia is a term used to define a group of conditions that affect thinking and behaviour. They usually start in late life but research is now suggesting that the diseases that lead to dementia actually may start in people in mid-life. One of the major challenges we face in current dementia research is to approximate what happens inside the brain of people with the earliest signs of disease many years before symptoms develop. Historically, our analysis of the actual disease has had to take place in people who have died but this can only give us limited information about the disease processes themselves that led to dementia and, crucially, the timeline of biological events that lead to its development.

The approach to date for predicting how biological patterns affect clinical symptoms has been relatively simplistic. It can be thought of through an analogy with weather forecasting. Decades ago we tried to predict the weather with only limited amounts of information drawing conclusions from, for example, the ‘red sky at night’ to try and see patterns that may help us say what will happen to the weather in the morning. It wasn’t until we developed the technology to track and analyse meteorological data on a vast, global scale that we were able to predict future weather patterns with any accuracy hours, days and now even weeks ahead.

We need to approach dementia and the underlying neurodegenerative diseases in the same way. By identifying the earliest patterns of disease which predict or ‘forecast’ dementia we hope to develop treatments that will knock these early disease processes down before they go on to cause further problems. This approach has worked well with almost every other major, chronic disease, and particularly in cancer, where we have become skilled at diagnosing tumours early and eradicating them before they grow and spread.

Those are the questions that the European Prevention of Alzheimer’s Dementia (EPAD) and PREVENT Dementia projects, both of which are led from the University, aim to answer. Our goal is to gather comprehensive health, biological and risk factor data from thousands of volunteers in their middle age and early old age, and follow them up over time to see which risk factors have the greatest impact on brain health and how changes in the biology of the brain relate to clinical symptoms.

In the same way that you would use barometers, thermometers, and hygrometers to measure the weather, we now have advanced technology to analyse accurately what is going on inside the brain. For instance, we use imaging techniques like diffusion tensor imaging to see brain structure in detail. We have worked with neuropsychology experts from all over the world to develop improved cognitive testing that allows us to home in on specific areas of the brain, like the hippocampus, which is often the first to be affected in dementia.

As we gather all this information, we can start to identify patterns that will help us predict the disease process in the population at large and, ultimately, we hope to be able to give any individual an accurate prediction of their dementia risk, with practical personalised interventions that can reduce it.

We already have hundreds of people enrolled in the PREVENT Dementia project, and recently opened new sites at the Universities of Oxford and Cambridge – in fact we have more volunteers than we are currently funded to recruit, which is an amazing testament to the motivation and generosity of people who have in one way or another been impacted by this disease. EPAD will have at least 6,000 participants from across Europe by the end of this decade and we plan to begin trials of interventions to prevent dementia in that cohort in 2018.

These projects represent major steps on this journey, and now we need people to come along with us. We need volunteers to join our studies, we need donors to support us over the long term, and we need governments and industry partners to deliver public health campaigns so we are all empowered to take control of our brain health. If we can do it for cancer and heart disease, there is no reason we can’t do it for dementia, and in just the same way, the rewards could be staggering. With the right investment, scientific expertise and political will, it may well be possible to all but eradicate dementia in our children’s lifetimes.”

Professor Craig Ritchie
A future free of dementia

Photo: Tractography map of the brain’s white matter using diffusion MRI from a participant of the Lothian Birth Cohort 1936, a group of Lothian-based subjects in their seventies. Age-related white matter hyperintensities, effectively scars on the white matter, are shown as yellow regions. Image courtesy of Dr Mark Bastin, Brain Research Imaging Centre, the University of Edinburgh.
Adam Waldman  
Chair of Neuroradiology at the University

One of the reasons that imaging is so valuable is it allows us to look at the brain objectively, in a non-invasive way. With other diseases, you can biopsy the affected tissue, but with the brain, unless you have a very, very good reason to do so, that may cause more harm than good.

Today’s imaging capability gives us the potential to detect the earliest pathological changes that underlie dementia. That is important for two reasons: firstly, it helps us to diagnose early, which we know is key to tackling any major condition. Secondly, it may allow us to distinguish the particular type of dementia, which increases the likelihood of finding the right treatment.

We know that the brain changes decades before the symptoms of dementia appear. Evidence now suggests that as part of the disease cascade, two proteins build up in the brain – amyloid and tau. Together, these toxic proteins lead to neurodegeneration and ultimately cell death.

There are many important ways of measuring these brain changes, including analysing cerebral-spinal fluid through lumbar punctures and identifying those with genetic risk through blood tests. But imaging adds an important advantage – through PET and MRI scanning we can see where these proteins are building in the brain, and crucially how this changes over time. We can detect inflammation in brain tissue and measure any shrinkage, all of which are the hallmarks of this condition. And importantly, we can measure brain function, to determine what impact these biological changes have on cognitive ability.

In Edinburgh, we have superb imaging facilities as a result of huge investments in this area. It is staggering to see how the field has changed even in the past 10 years, and we are very fortunate to have not only the most advanced scanners, but also the expertise to develop the techniques that put them to greatest effect. We are positioned within an established clinical setting and that critical mass makes it possible to develop fantastic momentum. Edinburgh now has the largest group of neuroimaging experts in the UK and we have tremendous ambition in what we could achieve.

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Julie Duffus  
First participant recruited to EPAD

I got involved in dementia research because both of my parents had dementia. My mum died first, and then my dad a while after. Both of them had been involved with research in their lifetimes and I felt that now it was my turn. I signed up to the Join Dementia Research campaign, who matched me with the PREVENT Dementia research project in Edinburgh. A few months later I was contacted by Professor Ritchie who asked if I would be interested in becoming the first participant in Europe to join the EPAD study. I was excited by the prospect and felt very happy to get involved.

From my experience of caring for my parents, I know how dementia manifests itself at the end of life, and the issues you face in caring for a loved one with the disease. This isn’t a disease that just affects the individual, it changes your family completely. We couldn’t keep my Dad in his own home because he kept leaving the house at 5am in his pyjamas and being found by the police. It was just awful, both for him and our family around him. When someone with dementia dies it is like a double bereavement because you have already lost the person you love once, robbed of their personality by an, as yet, incurable disease.

EPAD is different from everything else I’ve heard about in dementia research because the emphasis is on middle age. We are not yet at the point of being able to predict a person’s risk in advance, and of giving them advice on how they could reduce it. If we could do that it would change everything.

Volunteering for the study has been a wonderful experience. I have found it fascinating. Although I have worried about different elements of the testing – I thought I would feel claustrophobic in the MRI scanner, for example – when the time came, I didn’t feel uncomfortable at all. The staff put me at ease and when you’re taking part in something that you feel is so important, you can’t let nerves get in your way.

As it’s a European project, one of the things I am most interested to find out is whether there are any geographical differences in what the research shows. You hear that the Mediterranean lifestyle is good for your health, so it will be good to see if that comes out in the data about dementia risks too.

Through my involvement in EPAD, I have become passionate about the need for this research. I know that I would rather get any other disease than dementia. We need to fix it, and hopefully, with projects like this, we are on our way. I hope that my contribution will in some way help us to find better ways of diagnosing the disease and potentially, one day, to prevent it.
“My hope for the future is that you can get a diagnosis of dementia and not feel that your life is over.”

Sally Magnusson

Alumna, TV presenter, writer and founder of dementia charity Playlist for Life

Dementia was something I had given very little thought to. Until it comes knocking at your own door you are not aware, and may be, in fact, profoundly ignorant, as I now realise I was. Gradually, over 12 years, it began to engulf my life. My mother was a very lively, smart, vivacious, gregarious person and watching the symptoms of what turned out to be Alzheimer’s and vascular dementia ravage her was very, very painful. It was also a very lonely experience, which is why I wrote my book, Where Memories Go: Why Dementia Changes Everything, to try and talk about this.

Stigma is like some sort of bacteria that feeds on silence, it feeds on people holding it inside and not sharing it, it feeds on shame. There has been a shame attached to dementia because families become wary of a loved one being in company in case they say something offensive, or do something silly. You’re trying to protect them and you’re also trying to protect that bit of yourself that just wants things to be normal.

All these things have conspired to keep dementia under the radar, and it remained there even while people were living longer and longer, and the numbers of those affected increased. By not talking about it, we as a society failed to put the social supports in place that were so badly needed.

We are much better at that now. We are talking about it more, governments are thinking about it more and we are getting a bit better at bringing to families and people with dementia the support they need. But there is still a long way to go and we have to work even harder at it, because this is a disease for everyone. There is not going to be a family in the land who will not be affected in one way or another. Nobody will be untouched by this.

My hope for the future is that you can get a diagnosis of dementia and not feel that your life is over. That you are able to continue living as full a life as possible, among people who understand what dementia is and what it isn’t. That you shouldn’t feel you can’t tell your friends or workmates because they will treat you differently.

I have read a lot of the research over the years and have seen many exciting things happening in mice and rats, but unfortunately when they have been rolled out in large, and expensive trials, they have not yet worked in human beings. That’s why I am so supportive of the work going on in Edinburgh right now. By gathering all of this information on what causes the disease in its very earliest stages, and differentiating between what could potentially be up to thousands of disease strains, there is a possibility that the game could be changed for generations to come.

My mother talked about feeling like she was on a long road, getting further and further away from herself. That feeling of detachment must be just the most frightening and lonely experience to have. Music can connect somebody to the person they feel themselves to be, and it can connect them to the loved ones who feel they have lost the ability to talk to them.

I set up the charity Playlist for Life to encourage families to offer personally meaningful music to those they love with dementia, as a means of helping to combat that isolation. It’s about connecting a person to themselves. My hope is that every single person in the country becomes aware that personal music can be a powerful tool that can alter mood for the better, help cognition and improve memory. I want the experience of dementia to be a happier one. All the evidence suggests that access to the soundtrack of their lives can keep bringing people back to themselves for a while, right to the end of their lives – and no drug can do that yet.

More information:
www.ed.ac.uk/clinical-brain-sciences
www.centrefordementiaprevention.com
www.playlistforlife.org.uk
What does liberty look like now?

The *Edit* opinion piece

by Professor Thia Cooper
Edinburgh graduate and Chair of Latin American Studies and Professor of Religion at Gustavus Adolphus College, Minnesota, USA, Thia Cooper shares her ideas on justice, freedom, privilege and gender, while recalling Edinburgh educator Marcella Althaus-Reid.

Confession: I hate conflict. However, in our current society, if I stay quiet, I support the hateful speech and work of a powerful minority. I refuse to enable hate.

Professor Marcella Althaus-Reid, former Professor and Chair of Contextual Theology at the University of Edinburgh, taught me to speak up. Because of her teaching, I became a liberation theologian and professor of religion. Today, I challenge you to speak out against the injustice you see around you.

In order to work towards justice in this difficult global climate, we need two things. First, we need to understand the intersections of privilege and oppression. Second, we need to prioritise those people who have been most marginalised.

I live in Minnesota, USA, two miles from a dairy that employs mainly Latina/o workers. However, my tiny township is predominantly white. Somali and Latina/o migrants to the area face regular abuse, though the earlier Scandinavian migrants came to escape marginalisation elsewhere. We tend to notice when we are being oppressed, but fail to notice when we have gained privilege and others are oppressed.

As a liberation theologian, I argue religion should free people, not oppress them. Yet, here I live, in a town, a country, which is racist, sexist, heterosexist, and classist. Racism, sexism, classism, religionism, nationalism, and other ‘isms’ extend far beyond the US borders. Recent elections in European countries show us how pervasive and persuasive the elite can be. The elite persuade many of us to vote for them against our own interests. We harm ourselves and others.

We often fail to recognise the complexity of privilege and oppression. As a white woman, I have less privilege than a white man. However, I can access more opportunities than a black woman. If I advocate for a policy to help my community, do I ask if it will help people of varying religions, races, and sexes, particularly those most excluded? Or will the policy just help people like me?

Marcella focused on the excluded, examining the intersections of privilege and oppression. She, herself, was both privileged and marginalised, depending on the context. In her native Argentina, she experienced periods of poverty and rejection from theological study as a woman. She worked with the homeless, the poor and those considered to be outside the norms of society. Her education gave her privilege, yet, she was still chased out of churches for her ‘radical theology’. On the other hand, she was celebrated for her work, becoming the first female Chair in Theology at the University of Edinburgh and only the second in Scotland. However, this chair was only installed in 2006, embarrassingly recently.

Marcella’s intersectionality of privilege and oppression is common to under-represented groups more
broadly. Under-represented scholars face marginalisation regularly. If they manage to get hired, it is often to teach a so-called niche subject, rather than a traditional or core subject. For example, the label of contextual theology is given to black, feminist and other theologies. Yet, all theology is contextual. We just don’t label ‘white male European theology’. This labelling is true in other fields too. Race, gender, and so forth, are add-ons or niches to a ‘core’. We tend to use these labels for people as well. Any other than a white heterosexual able-bodied Christian male is outside the norm, and thus labelled disabled, black, gay, and so forth.

I work as the Faculty Associate for Diversity at Gustavus, aiming to fully include under-represented people on our campus. Many of our under-represented colleagues are tolerated – but not included. By inclusion, I mean two things. First, there will be more than one token woman or person of colour in our sphere. Second, inclusion means our communities will change, which we tend to forget. We tend to be welcoming as long as the person joining will be ‘like us’. Yet, the ‘us’ is often a small homogeneous group with privilege.

Liberation theologians look for the elephant in the room. Who are we sidelining? What perspectives are we ignoring? Marcella asked how race, class, sex and sexuality affected each other. She worked in poor communities with eyes wide open to see who people are, which led her to queer theology. Queer theology includes queering theology itself. Her two books, *Indecent Theology* and *The Queer God* asked who God is, beginning with the excluded: poor, sexually active and queer. Queer is anyone considered outside the norm, whatever the norm may be. Her queering of theology included working against theology’s capitalist economic assumptions and its heterosexual assumptions. She articulated a theology that would include people rather than exclude them.

Teaching was also critical to her activism. Education can empower people of all races, classes and sexes to work towards just structures. However, education can also disempower people.

“Education can empower people of all races, classes and sexes to work towards just structures. However, education can also disempower people.”
towards just structures. However, education can also disempower people. If I teach about the traditions of old white European men, excluding other knowledge, I am disempowering. If I teach facts rather than teaching students to ask questions, I am disempowering. If I fail to teach at the intersections, I am disempowering. Unfortunately, education is still a privilege rather than a right. As learners we need to take privilege seriously; our learning can either educate us towards justice or work against it.

I teach in religion and direct the Latin American Studies programme at a small liberal arts college, aiming to empower undergraduates to be active citizens. After numerous conversations with my mostly Christian students about sex and religion, I realised students had no tools for developing a sexual ethic. All these students heard was ‘no sex before marriage’, in their Christian context. Christianity appeared to say nothing regarding healthy sexual relationships. At the same time, I saw a divide between the white students and the students of colour. While my students shared many experiences, the students of colour were aware of white privilege while the white students did not understand their privilege. Again, Christianity seemed to say nothing about white privilege.

In response to my students’ needs, I developed a class called Sex, Race, Money, God and wrote a book Liberating Sex. These themes differ from my original area of research into Latin American liberation theology and my first book, Controversies in Political Theology. This was an unexpected change of subject, but it was what my students needed.

The first question asked by liberationists is always ‘who is being marginalised and how?’. The elite have used theology to exclude others but theology can also liberate and include. This is true of any field or subject. Our work either includes or excludes others. We all need to know who is marginalised, how we marginalise them, and how we can work to fully include every human being.

Look around at your work colleagues, at the people you interact with in your community. How many varying religions, abilities, races, sexes and genders are represented? How could you work towards inclusion? How are you currently excluding others?

If we want to work towards justice, we need to ask how our own fields perpetuate injustice and whether our fields can work towards justice. This question leads us to broader research and action than our degrees taught us to expect. We need to ask two questions: 1. What did we learn? 2. What was excluded from our learning? Each of us, whatever our field of work, can either perpetuate injustice, or we can work towards justice. Which path will you choose?

“We tend to notice when we are being oppressed, but fail to notice when we have gained privilege and others are oppressed.”

About Marcella Althaus-Reid

Marcella Althaus-Reid joined the School of Divinity staff in 2006. She remained in post until her death in 2009, aged 52. After working with the most marginalised people in Argentina, Marcella moved to Scotland and worked with the poorest groups in and around Perth, Dundee and Edinburgh. She taught at New College, carried out her research and played a vibrant role on the international conference circuit. She attracted great crowds of academics and students, whenever she spoke, and even had a fan-base who wore T-shirts emblazoned with a photograph of her own smiling face, and key messages from her conference talks.

Thia Cooper undertook her Master of Theology at Edinburgh’s New College in 1999 and completed her PhD in 2005, under Professor Althaus-Reid. Professor Cooper’s background lies in development studies as well as theology, and she teaches and researches across a broad range of areas at Gustavus Adolphus College, Minnesota. She regularly presents scholarly papers in the US and UK and is published by SCM Press and Palgrave MacMillan the UK and Fortress Press in the US.
The power of nature

Edinburgh research into youth crime and justice, led by alumna Professor Lesley McAra, has resulted in major changes within criminal justice systems both at home and overseas. The number of older teenagers currently incarcerated in Scotland is the lowest since records began.

Fellow alumnus Jamie Feilden has formulated social-justice interventions that rescue young people from the criminal justice system through a transformative rural experience. *Edit* uncovers what drives them and how their efforts are changing lives.

Lesley McAra, Assistant Principal for Community Relations at Edinburgh, says she is “a proud alumna of the University”. As an academic, she always aims to conduct her research “with, in and for the community” and to use research evidence to promote and campaign for positive social and political change.

This spirit of producing socially useful research brought her to undertake the co-directorship of a research programme almost 20 years ago that has uncovered life-changing findings. The Edinburgh Study of Youth Transitions and Crime, established with Edinburgh colleagues David J Smith and Susan McVie, is a longitudinal programme tracking the lives of 4,300 young people who started secondary school in Edinburgh in 1998.

“To date our findings show how widespread offending is during the teenage years – around 96 per cent of our cohort admitted to being involved in offending,” reveals Professor McAra, who is also Chair of Penology at Edinburgh Law School.

“Our study also highlights major biases in decision-making against young people who come from backgrounds blighted by poverty, in terms of who is excluded from school; who is charged by the police; who ends up on social work supervision; and who is imprisoned,” she continues. “We also discovered that social-justice interventions – those focused on education, health, housing and community – will in practice be more effective in reducing youth crime than any ‘short, sharp, shock’ initiative could ever be.”

Initially the findings have been challenging for both policy-makers and youth justice practitioners, and the study team has had to work extremely hard to persuade politicians of the need for reform. Lesley and her colleagues have found ingenious routes to getting these messages across.

“In addition to the production of more than 200 papers and presentations, we have used less traditional means of reaching a wider set of publics, including performing Edinburgh Fringe shows such as *Hug a Thug* which told the stories of prisoners and victims through poetry and song,” she explains. “I’ve also worked with
storytellers from the Edinburgh-based Scottish Storytelling Centre, to narrate the life histories of cohort members (suitably anonymised) and used drama with community groups to explore the powerful impact of crime and justice issues on people’s lives and wellbeing.”

As a result of these efforts, the study has formed the evidence-base for recent changes to Scottish youth justice policy, focusing on early and effective intervention and diversion, via a ‘whole system approach’. These changes have brought about major reductions in the numbers of young people caught up in the justice system in Scotland, reducing the number of older teenagers who end up in prison to the lowest figures since records began. Findings have also been used with major success by Apex Scotland, a not-for-profit organisation that works with former offenders, as well as penal reform groups internationally, to underpin interventions to reduce school exclusion.

Elsewhere in the UK, fellow alumnus Jamie Feilden has taken a parallel approach to the problem of youth exclusion, which he experienced first hand working as a secondary schoolteacher in Croydon, following graduation from Edinburgh in 2003. Witnessing challenging behaviour in his secondary school environment, he also – personally – took on the idea of social-justice intervention.

Jamie’s own upbringing had been in a rural setting and he began to believe that there was a connection between bad behaviour in classes, low self-esteem of his pupils and a lack of access to the countryside.

“I came up with the idea for Jamie’s Farm because I thought that taking the most vulnerable students to a rural setting could affect some of their challenges,” Jamie explains.

Jamie’s Farm, the organisation that he now runs with a small team of therapists and farmers, offers young people on the margins of society a one-week residential experience that combines farming, family and therapy.

The now burgeoning charity started out small, and more than a little homespun. “In the early days it was all pretty rough and ready with kids sleeping on the floor on my mother’s living room of our family’s farm, but it was clear from the beginning that it worked,” Jamie tells us.

During the week-long visits to the farm, disadvantaged young people – typically between the ages of 10 and 16 – are involved with all aspects of agricultural life as part of the Jamie’s Farm community; mobile phones and sugary snacks are replaced with wellingtons, overalls and nutritious home-cooked food. In a single day, a young person may feed and muck out pigs before breakfast, chop some logs in their morning session, harvest vegetables and prepare dinner in their afternoon session, go on a daily walk after tea and then deliver a lamb after dinner.

Alongside these jobs, the team have designed a flexible programme of therapeutic sessions in order to support the young people to vocalise rather than...
act out challenges they face in their home lives. There is also an expansive follow-up programme to ensure that the impact created during the week lasts. This means engaging schools, teachers and families in supporting the young person to flourish, beyond their farm experience.

"In the first ever visit in 2006 we saw that the combination of farming, family and therapy could have a transformational effect on children’s behaviour and engagement," says Jamie. “Seeing those first groups of children leave the farm a foot taller and taking more responsibility for themselves and their behaviour made me think this could work.”

As with any new venture things didn’t always run smoothly, and there were times when it looked as if the charity might not find a home. However, Jamie was able to borrow money from “amazing people” and purchase a permanent farm in 2010, which now forms the charity’s headquarters.

“For me, buying the first farm was a big achievement,” says Jamie. “We managed to borrow £1.5 million on a turnover of less than £100,000. Engaging so many great supporters in this process was really exciting. Now I’m excited by the fact that we’re going from one farm to four, 450 children per year to 1,800, and keeping the amazing Jamie’s Farm culture alive. I have great colleagues and it is a privilege to do this work.”

In the school year 2015/2016 the farm’s reporting showed that 15 per cent of the referred children were looked after, 56 per cent claimed free school meals, 45 per cent were Black, Asian and minority ethnic, and 57 per cent were not on track in core subjects at school. All these groups have been identified by the UK’s Department for Education as at risk of under attaining academically or being excluded from school. Combined with a lack of opportunities to develop soft skills, this leads to a range of problems in adult life from relationships to employability.

In England, 99 per cent of young people who are permanently excluded leave school without the necessary qualifications needed to access the workplace. Furthermore, children who have been temporarily or permanently excluded go on to make up the majority of the prison population. It is estimated that if just one in 10 of these young people who are sentenced to go to prison could be turned around before getting to this stage, public services would save an estimated £100 million annually.

As well as the rewards social-justice interventions have for wider society, Jamie is adamant that they bring personal rewards too. “We have these great moments where we make breakthroughs with really challenging kids. Those early days where we all pulled together and delivered a fantastic experience for kids who had never left the city were really powerful. I remember driving along in a beaten up old truck with kids singing along to Paul Simon and thinking ‘this is the best job in the world!’”

Jamie’s Farm is seeing promising results. In the academic year 2015/16, 82 per cent of the young people referred there for being at risk of exclusion, are no longer in this category six weeks on.

In the next three years the charity hopes to expand to four farms, in Bath, Hereford, Monmouth and Lewes, as well as establish a new kind of children’s home. These beautiful places have the potential to transform the lives of children from across the country. Jamie’s hope is that these farms will be the incubator for exciting and innovative ways to support young people.

For Lesley McAra, the University community of alumni and friends can function as a force for positive societal transformation. For Lesley personally, this means putting academic research and teaching in the service of the community – at home and internationally: “In my current role as Assistant Principal, I have become aware of the wonderful work of our students, our staff and our alumni which is of direct benefit to the community. I hope others feel inspired to share their stories of impact or to become more involved. Together we can make a difference.”

More information:
www.jamiesfarm.org.uk
www.esytc.ed.ac.uk
Photo: Elon Musk delivering a speech at the SpaceX Hyperloop Pod Competition in California, USA.

Photos: The development stages of the pod by the HypED team.

Believe the hype
Imagine a world where you can travel the length of the UK in less than an hour, gliding at the speed of sound through a seamless network of tubes. This is the vision of a team of talented Edinburgh students who have reached the final stages of not one but two international competitions to develop a new mode of transport called Hyperloop. Adam Anyszewski, 4th-year Engineering student and president of HypED, tells the story of the team’s inspiring journey so far.

Picture this: it’s 2035, you’re living in Edinburgh and have a meeting in London at 9am. You head to Waverley Station to catch the 8am Hyperloop; where you will sit in a capsule which will move at 750mph through a near-vacuum tube, getting you to Kings Cross for 8.30am. Thirty minutes to spare. That’s how we at HypED see the future. And this dream of transforming transportation is now starting to become a reality.

Our journey began more than four years ago, when Elon Musk, world-renowned inventor and Chief Executive Officer of Tesla and SpaceX, published a 57-page white paper entitled Hyperloop Alpha aimed at ‘revolutionising terrestrial transportation’. For Musk, who came up with the idea while stuck in a traffic jam on his way to work one day, Hyperloop is the future. It combines aspects of the four traditional modes of transport but goes above and beyond.

The Hyperloop system comprises three main components: tube, pods and stations. The tube’s near-vacuum environment allows the pod to travel with very little resistance. Once the pod enters the tube at a station, it is initially accelerated by linear induction motors, but for the most part of the journey it is coasting on passive magnetic levitation, hence power consumption is brought down to minimum. Even at the braking phase there is no physical friction as the pod slows down by utilising eddy currents.

Our team’s proposed route will connect the most densely populated areas across the United Kingdom: Edinburgh, Manchester, Birmingham...
and London. One pod will carry up to 28 passengers and pods will be able to depart from stations as often as every 30 seconds on the same route. The steel tubes will be built in pairs for both directions of travel and will likely be suspended at a few metres’ height by concrete pylons. Nevertheless, the possibility of fully or partly underground tubes is also being considered.

As soon as Musk released his Hyperloop Alpha paper, discussions and debates began. He decided that neither SpaceX nor Tesla would work on the development and instead made it an open concept for people to develop. Two years later, in June 2015, SpaceX announced a competition for both university and commercial teams to play a part in the development of Hyperloop, allowing the teams the chance to present their ideas and try them out on a custom-built test track, approximately one mile in length with a six-foot outer diameter, in California. Hyperloop was no longer a fantasy but a real possibility.

Immediately after the announcement, engineering students, including myself, at the University of Edinburgh got excited. A group of us got together and soon enough the HypED team was born, giving us an opportunity to create this incredible next mode of transport. Despite being a group of just over 20 students we sensed that we needed to be more interdisciplinary. Hyperloop was more than a technical idea, it was also about passenger experience and looking at government objectives for the future of green transport. Seven students from Edinburgh College of Art came on board to create a comfortable and enjoyable passenger experience. Everything from how a passenger would get into the pod and the design of the interior, to chair shape and temperature control was considered. Our team, which had now grown to 30 students, submitted our proposal to SpaceX in October 2015.

Of the 1,200 teams from around the world that submitted a preliminary design brief to SpaceX, just 120 were accepted and invited to a Design Weekend in Texas in January 2016. HypED was one of them. Autumn flew by quickly and work continued right through Christmas, and early in the new year 20 members of HypED were flying out to Texas.
The Design Weekend was to be a stepping-stone to the final competition in August 2016 in California. We submitted our 50-page proposal and gave two presentations: on the general idea and modularity. Our presentation on modularity and passenger experience saw HypED awarded a Subsystem Technical Excellence Award, one of only 13 special awards, and a $1,000 donation from the Texas IAM (International Association of Machinists & Aerospace Workers). Despite this incredible experience, which helped the team to develop its technical, presentation and sales skills and grow great friendships along the way, HypED did not get through to the next stage in California at this point.

Back on Scottish soil, we regrouped as a team and decided that we shouldn’t give up. Rather, we had to go bigger! We had to ensure that if anyone spoke about Hyperloop in the UK that it all traced back to HypED and the University of Edinburgh. For HypED to achieve this we needed structure, funding and to be recognised as an official University society – allowing us to gain strong support from the University.

Soon enough, another company called Hyperloop One announced a new competition – the Hyperloop One Global Challenge – allowing teams to present the most feasible place for the world’s first Hyperloop. This was HypED’s chance to get our dream route of Edinburgh to London on the map. The team grew to 50 students from various disciplines across the University, including engineering, business, art and law. This collaboration of students allowed all angles of the Hyperloop problem to be looked at in close detail.

We started to spread the word about HypED’s endeavours. The team decided to run a marketing campaign in October 2016, getting people from across Edinburgh photographed holding huge tickets for our proposed Edinburgh to London Hyperloop. We made links with government officials and transport experts to look at the many different problems that would be solved if the route were to be implemented into the UK. Our hard work led us to be invited to Amsterdam to present our route in the semi-finals of the competition in June 2017.

Things did not quieten down for HypED’s technical team either. SpaceX announced that they were going to run the Hyperloop Pod Competition again. Realising the scope and opportunities that the competition brought and having learnt from the previous year’s mistakes, HypED started looking for sponsors and we were lucky enough to secure a deal with Cirrus Logic, who donated £12,000 to the project. This was game changing and would allow us to develop a prototype of the pod.

The work did not stop and HypED took precedence over everything. By February 2017, we had a 120-page proposal ready for SpaceX. The proposal was accepted and on 16 March the team gave a presentation via Skype, after which we waited eagerly for feedback. HypED at this point had gathered up a lot of momentum and were grateful to receive support from Professors Gordon Masterton and Win Rampen at the University.

Emails were constantly checked for a response about our presentation and SpaceX’s website was kept under a close watch for updates, and after what felt like the longest fortnight in existence, the answer we’d been hoping for came through – our team, along with 24 other teams, had been invited out to California on 25 to 27 August.

HypED is the only British team (one of four European teams) in the final of one of the most prestigious and inspiring engineering competitions in the world. Everyone in the team is now busy with final preparations to showcase the pod prototype, proudly named Poddy McPodface, to SpaceX in California, and our Edinburgh to London route feasibility to Hyperloop One in Amsterdam.

HypEd is a group of young students focused on the bigger picture of Hyperloop and our commitment is demonstrated by our unique choice to develop cases in both the technical and commercial competitions. We are millennials aiming to make a real impact on a future technology that we want to implement right here in the UK and across the globe. We are united under one dream solution – a world where people and countries are more connected. Four years of hard work is starting to pay off and we’re still HypED!

"HypED is the only British team in the final of one of the most prestigious and inspiring engineering competitions in the world.”

For the latest developments, visit www.facebook.com/hypedinburgh

If you’d like to get in touch, email team@hyp-ed.com
A lasting legacy

During his 15 years as Principal Professor Sir Timothy O’Shea has championed widening access to universities. As he prepares to step down, a scholarship initiative named in his honour will continue his work by giving students the opportunity to excel regardless of their circumstances. *Edit* finds out more about the O’Shea Global Scholars Initiative and how it is widening access to an Edinburgh education.

Professor O’Shea has had many successes and achievements over the years, and the University has benefited enormously from his leadership. He has secured the implementation of changes that have had a profound and life-changing effect on many of the students who study here.

An example of this is the expansion of financial support to help attract the very best students to Edinburgh, regardless of their background.

The O’Shea Global Scholars Initiative will further Professor O’Shea’s work by increasing local and global access to an Edinburgh education, as well as opportunities to develop a global perspective once here.

Through the initiative students will be offered scholarships to study on campus, take online courses and benefit from an international experience, whether through internships, research, summer schools or exchange programmes.

Good grades don’t always guarantee a place at University. That’s why Edinburgh is dedicated to supporting bright students from low-income backgrounds through building on its already comprehensive scholarships programme.

For medical student Robbie Miller, being awarded a scholarship to study at Edinburgh set him on a path towards a bright future.

"Medicine was something I liked and thought I would enjoy a career in," says Robbie. "I’m planning on becoming a GP. The medicine programme itself has been a highlight. I’m definitely lucky in that aspect. At university there’s a lot of very diverse people and you always make good friends. I think only one third of the people on my course are Scottish!"

He continues: "Without the scholarship I wouldn’t have come to university. It wouldn’t have been feasible for me. It’s a significant thing that will have repercussions for me, my family and future generations. It’s a ripple effect. A direct way you can impact and change a life."

As well as increasing support for students to get in to university, Professor O’Shea has also been a strong believer in the benefits of enhancing studies with an international educational experience.

The Principal’s Go Abroad Fund is already supporting students in setting off on a dream adventure. In 2016, 287 students travelled to 73 countries on six continents to enjoy a six-to-eight-week educational experience.

With additional support available through the O’Shea Global Scholars Initiative, even more students will be able to spend time abroad during their programme and gain a deeper understanding of the wider world.

Such experiences can give students the resilience, cultural sensitivity, language skills and drive to become truly global citizens.

Research from the British Council and Association of Graduate Recruiters shows that employers prioritise the ability to work collaboratively with people from diverse backgrounds in young graduates. Gaining these skills while studying for a degree is not only a rewarding personal experience but also a chance to improve career prospects.

Vali Constantin, Public Health scholar, is one of many Edinburgh students who have spent time abroad.

"I have now worked with a charity called Ashinaga twice," explains Vali. "The first year I worked in Japan as a member of their student support team and I reapplied a year later to work on the same programme in Senegal. Ashinaga helps orphans and other financially disadvantaged students get to university through providing them with loans."

Vali continues: "I feel the internships have been essential to make that connection between what I do in my degree and how it is applied in the wider world. The internship was hard work and a lot of pressure, but such a life-changing and interesting challenge and the best thing I’ve ever done."

With the introduction of the O’Shea Global Scholars Initiative, future generations of students will be able to benefit from the University’s commitment to social and economic mobility. It’s a fitting legacy for a principal whose devotion to Edinburgh’s student population has been so clear during his time at the University.

More information: www.ed.ac.uk/alumni/services/givingback
After the end of World War Two, Henry Harvey Wood, Head of the British Council in Scotland, Sidney Newman, Reid Professor of Music at the University, and alumnus Lord Provost Sir John Falconer, embarked on a mission to bring a visionary cultural event to Scotland’s capital. In 1947 the Edinburgh International Festival was founded as ‘a platform for the flowering of the human spirit’, with the Edinburgh Festival Fringe and Edinburgh International Film Festival launching the same year. Today, these festivals offer an unparalleled celebration of arts, comedy and entertainment and bring together performers and visitors from around the world.

www.ed.ac.uk/festivals
What you did next

Here we explore the interesting locations and careers that our alumni have found themselves in.

If you'd like to share your experiences, we'd love to hear from you at www.ed.ac.uk/alumni/yournews

Svetoslav Todorov

Bachelor of Music (2015)

After studying at both the Dobris Hristov National Music Academy – Varna and Pancho Vladigerov National Academy of Music in Bulgaria, I chose to come to Edinburgh after discovering that it is one of the top universities in the world.

I met lovely teachers, made wonderful friendships and enjoyed the beauty of the city. One of my precious memories is when I was invited to perform on the piano for HRH The Princess Royal at the Palace of Holyroodhouse, Edinburgh – an unbelievable experience.

After finishing my degree, I continued on to postgraduate study at the Royal College of Music (RCM) in London and I will be graduating from there this summer. My time at RCM was very exciting and busy with performances in concert venues across Europe such as the Royal Festival Hall at the Southbank Centre in London, the Bulgarian Embassy and others. I also went to the Manhattan School of Music in New York City, where I represented the RCM for a semester gaining some valuable experience.

In 2015, I was awarded first prize at the Kyushu International Bach Music Competition in Japan. In addition, in June last year I released my debut video ‘The Kapustin Project’, which I dedicated to the Queen's 90th Birthday, combining my improvisation on ‘God Save the Queen’ with Nikolai Kapustin’s ‘Pastoral Etude’ and adding bass and drum sections to it. My idea is to keep releasing interesting videos and keep inspiring more and more people through my music.

In February 2017, I gave a solo recital at the Royal Albert Hall on Elton John’s red grand piano, which was sold out two weeks before the event. Looking ahead to 2018, I am going back to New York to perform my debut concert at the prestigious Carnegie Hall. Exciting times!
Safieh Shah

MSc Public Health Research (2010)

When I was in my third year at Baqai Medical University in Pakistan, I was invited to study an elective at the University of Pennsylvania in Philadelphia. It was there I fell in love with medical science and research, and found out that the University of Pennsylvania medical school was modelled after Edinburgh’s. When I completed medical school I decided to apply for my masters in Public Health Research here.

Coming from a background where medicine is not systematically taught as a science, I resolved to take the opportunity to take as many research methodology classes during my masters as I could to glean a holistic understanding of the multitude of ways research can be employed to inform change at different levels.

Since I completed my masters degree, I have committed myself to operating on the frontlines of many of the world’s most pressing health concerns. From setting up databases to tracking the global Ebola epidemic to helping research-based advocacy against sexual violence in India, to helping manage the influx of refugees in Greece, I have been able to apply the confidence and compassion I learnt at Edinburgh to each of these global issues.

As an activist in Pakistan, I feel it’s important to take into account that effective public health measures can have profound social and political changes, which is how I decide what to focus my work on. In May this year I was the editorial lead for the Médecins Sans Frontières Scientific Day – South Asia. My vision is to empower regions to foster their own identity via the decolonisation of their health agenda.

Viv Cree


Like many staff members, I am also a graduate of the University of Edinburgh – twice over! After graduating with an MA from the University of St Andrews in 1975, I trained as a youth and community worker in Glasgow and worked in Fraserburgh in Aberdeenshire for two years before coming to Edinburgh in 1978 to work for Lothian Regional Council as a youth worker in Muirhouse council housing estate.

In 1980, I began the postgraduate Diploma in Social Work/CQSW at Edinburgh. After graduating, I returned to Muirhouse for another year before joining Family Care, a then-prominent third sector children and families’ agency.

I returned to the University to undertake a PhD in Social Work, which I completed in 1992, the same year I started work as a lecturer. My PhD was a history of Family Care. It allowed me to pursue three loves in my life – sociology, history and hearing people’s stories.

Since then, I have written and researched extensively on social work, higher education and doing research with children. I was awarded a Personal Chair in Social Work in 2005.

As a long-standing staff member, I have lived and worked through what has felt, at times, like almost constant change – feminism; anti-discriminatory practice; and the ever-growing reach of neo-liberalism in the academy. The constant throughout this time has been the students – every new generation is keen to change society and help those most in need.

In 2017/2018, Social Work at the University at Edinburgh will celebrate its centenary with a number of events and activities, research projects, seminars, conferences and exhibitions. www.socialwork.ed.ac.uk/centenary
The University’s mission is to ‘discover, develop and share knowledge’. Edit highlights a few of our alumni authors doing just that.

To contribute to our online bookshelf, visit www.ed.ac.uk/alumni/services/news/alumni-bookshelf

THREE SISTERS, THREE QUEENS
PHILIPPA GREGORY

The latest historical novel from this prolific author tells the stories of three close friends – Margaret Tudor, Mary Tudor and Katherine of Aragon, who became the queens of England, Scotland and France. A story of envy, loss and sisterhood.

EINSTEIN & TWENTIETH-CENTURY POLITICS
RICHARD CROCKATT

This is the first comprehensive study of Albert Einstein’s politics, covering his opinions and campaigns on pacifism, Zionism, control of nuclear weapons, world government, freedom and racial equality. Here he is viewed alongside a selection of global intellectuals, including Gandhi, H G Wells and Thomas Mann.
**UMBRELLAS OF EDINBURGH**
RUSSELL JONES AND CLARE ASKEW

A selection of contemporary poetry and prose inspired by Scotland’s capital. Including works by more than 70 writers and spanning 200 pages, the collection explores both the famous landmarks and hidden gems of Edinburgh.

**THE FRACTURED LIFE OF JIMMY DICE**
RONAN RYAN

Losing his twin at birth, surviving a dog attack, being chased by gangsters… Jimmy overcomes one challenge after another in this story of growing up and falling in love in Ireland.

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**FANTASTIC BEASTS AND WHERE TO FIND THEM**
J K ROWLING

First released in 2001, and the inspiration for a movie blockbuster, this updated 2017 edition is an essential companion to the Harry Potter stories. It offers a new foreword by the author and the introduction of six new beasts.

**PORTRAITS OF VIOLENCE**
SEAN MICHAEL WILSON (ET AL)

Bringing together established academics and award-winning comic book writers and illustrators, Portraits of Violence illustrates the most compelling ideas and episodes in the critique of violence. Michel Foucault, Susan Sontag, Noam Chomsky and Judith Butler are among those who tell their story in this innovative graphic title.

**THE BERTIE PROJECT**
ALEXANDER McCALL SMITH

The 11th book in the series about the lives of the eccentric city dwellers of a nook of Edinburgh’s New Town. This latest instalment about 44 Scotland Street sees Bertie trying to escape his overbearing mother.

**RATHER BE THE DEVIL**
IAN RANKIN

In the 21st instalment in the Inspector Rebus series, the death of Maria Turquand, murdered in her hotel room 40 years ago, remains unsolved. Meanwhile, Edinburgh’s underworld has a new king, but will “Big Ger” Cafferty reclaim his throne in this tale of corruption and rivalry?
At almost 440 years old, the University of Edinburgh Library is one of the oldest libraries in Scotland. As we approach the 50th anniversary of the opening of the Main Library on George Square, we share some of our alumni’s fond memories of the iconic 1960s Basil Spence building.

Ian Rankin

English Language & Literature, MA (1982)

I arrived at the University of Edinburgh in October 1978 to study English Language & Literature. As the first member of my family to go on to further education, I was ill-prepared. The city seemed huge and intimidating – the University only slightly less so! The workload was huge and I was studying one subject (philosophy), which was brand new to me and utterly bewildering.

The University Main Library on George Square quickly became my HQ. I would see fellow students from my course there, and discuss topics and problems with them in the subterranean café. I would sit with a group of ex-pupils from my old high school at desks on the first or second floor and (between studying) make plans for extra-curricular activities. I would hear about bands being started, magazines looking for submissions, opportunities for new playwrights. The whole building was a meeting place and creative cauldron. And it was lovely not having to spend all my first term’s grant on textbooks.

Later on, when I became more serious in my studies, I moved to the upper, quieter floors, ending at one of the prized carrels on the fifth or sixth floor. I could sit there in splendid isolation to write my essays, poems and short stories. Back on the ground floor, the librarians were ready to help me find obscure texts, even if it meant borrowing them from overseas institutions. Oh, and there was a fairly rudimentary photocopier on one of the floors too. It was where I painstakingly copied my first novel, one sheet at a time.

I always enjoy revisiting the building, remembering those far-off days and hopeful that another generation of novelists, poets, musicians, actors and artists is somewhere hard at work.

Stephanie Gibson (née Kelly)

French & German & European Union Studies, MA Hons (2013)

The University Main Library was my go-to place for studying throughout my time in Edinburgh. In my final year, I started considering librarianship as a career and, luckily for me, a volunteer post came up in the Centre for Research Collections in the University’s Library. I got to work with some amazing pieces from the collection, and got an insight into the lives of former students while looking through old records.

I am now Information Literacy Coordinator at the University of Essex library, and am finishing an MSc in Library & Information Studies. I can safely say that without the University Library, I wouldn’t be where I am today.
As part of the 50th anniversary celebrations, the Centre for Research Collections is building up its archive collection to tell the story of the Main Library. We are particularly interested in material from the years 1980 to 2000, including photographs of people and places at the University; diaries and correspondence of people while at Edinburgh; records of student societies; items about events such as posters, tickets, leaflets; certificates and awards; and lecture notes.

If you have material you would like to gift to the University for this appeal, please email Rachel Hosker, Archives Manager at rachel.hosker@ed.ac.uk.
Convener’s comments

A highlight of the last few months was undoubtedly the very well attended Half-Yearly Meeting held on 18 February. The last Annual Report from the Principal, Professor Sir Timothy O’Shea, was masterful. Full of facts regarding our very successful University and delivered with nice touches of humour. The Presiding Officer of the Scottish Parliament informed and entertained us after lunch.

The Business Committee agenda has been heavily focused on the consequences of the implementation of the Higher Education Governance (Scotland) Act 2016 and the development of the Revised Code of Good Higher Education Governance. Our standing sub-committees continue to explore a variety of topics with senior members of University staff. Recent subjects include global engagement, transport policy, the University’s relationship with the Edinburgh Consular Corps and high-performance computing.

Stuart Macpherson
Convener of the Business Committee of the General Council.

In the diary

The General Council Half-Yearly Meeting took place on Saturday 10 June 2017 at the Queen Margaret Research Institute, Little France. Looking ahead, here is a note of key events and dates for the coming months.

Elections
Election for five members of the Business Committee will be in February 2018. All General Council members are eligible to stand. Further information and nomination forms are available from the General Council Office or website. Nominations should be received in the General Council Office by 22 November 2017.

February Half-Yearly Meeting
Saturday 24 February 2018, Edinburgh Centre for Carbon Innovation, High School Yards, Edinburgh, followed by lunch in the Playfair Library Hall.

Notice for Motions for the Half-Yearly Meeting
Motions should be received in the General Council Office by 22 November 2017.

Further information can be found online at:
www.general-council.ed.ac.uk/whats-happening

About us

Much more information about the General Council and its work can be found on our website. News and meeting papers are in Billet, which is once again a separate publication. This has been emailed out and is also available on the Publications section of our website. Remember, all graduates of the University are members of the General Council.

www.general-council.ed.ac.uk
150 years of engineering excellence

The University has taught engineers since 1673, and in 1868 the discipline was formally recognised with the creation of the Regius Chair of Engineering.

To celebrate 150 years of innovation and invention, the School of Engineering will host a programme of events and activities next year, including an alumni weekend 5–6 October 2018.

More information: www.eng.ed.ac.uk/engineering150

This illustration shows Salter’s duck, or the Edinburgh duck – a device for converting wave power into electricity. Invented at the University in 1974 by Professor Stephen Salter, it was one of the earliest prototype wave power devices. Illustration by Katy Wiedemann, MA Illustration graduate.
"By leaving a legacy to the University we know that a number of prospective students will be able to live their dream of becoming a vet and, having trained at the Dick Vet School, to continue the tradition of providing outstanding veterinary care for future generations of animals."

Alan and Frances Bell

Find out more at www.ed.ac.uk/legacy-giving. For a free guide to leaving a gift in your will, please contact Morag Murison at morag.murison@ed.ac.uk, call +44 (0)131 650 9637 or complete the form below and post to: Development and Alumni, Charles Stewart House, 9-16 Chambers Street, Edinburgh EH1 1HT, UK.