A close-up portrait of Sir George Buckley, the new Chancellor of the University of Huddersfield. He is a middle-aged man with short, dark hair, wearing glasses and a dark suit jacket over a light blue shirt and a patterned tie. He has a slight smile and is looking directly at the camera. The background is a soft, out-of-focus yellowish-gold color.

Annual Review 2020



Welcome

This year has indeed been the most challenging of years. We all faced many obstacles, and our University community was forced to rapidly adapt to the restrictions that came into place.

I am very proud to say that in the face of so many professional and personal challenges, our University has gone from strength to strength. Colleagues distinguished themselves in so many ways, and responded by working flat out to combine online and on-campus learning that would challenge and support students so that they could continue to receive the standard of education they expect from our TEF Gold institution. Our students embraced the changes and flourished, and in turn, they have inspired our staff. We were also able to support both national and international efforts in the fight against COVID-19. This clearly demonstrates how innovative, inspiring and international our work is.

2020 also saw the University welcome a new Chancellor – [Sir George Buckley](#). One of the world's most respected business figures, Sir George was

himself a student at the University before launching a career that would see him rise to the top at leading multi-national companies. Sir George has been tremendously generous in his support for the University over the years. He is a proud Huddersfield graduate and a fantastic role model for our students, and I do not doubt that he will be an amazing Chancellor.

To learn more about the tremendous efforts of our students and staff, this Annual Review gives an overview of some of our highlights of 2020 that show why this year in particular has made me feel such pride in the University.

Professor Bob Cryan
CBE DL CMgr CCMi FEng
Vice-Chancellor and Chief Executive

International



▶ Professor Adrian Wood

Preserving Ethiopia's coffee and forests for a sustainable future

The University is helping rural communities in Ethiopia preserve the original source of coffee while making a sustainable living. Faced with deforestation and land degradation threatening livelihoods and coffee's origins, Professor Adrian Wood and colleagues have designed a long-term project to improve prospects for the future via a sustainable development initiative. His work on the five-year Community Conservation of Wild Coffee and Natural Forest (CCWCNF) project is funded by UK and US charities with additional support from the University.

Key to the University's work is the partnership with the Ethio-Wetlands and Natural Resources Association (EWNRA), a not-for-profit civil society organisation formed with support from a previous Huddersfield project. Their mission is to create productive ecosystems that improve living standards for local people and conserve biodiversity, including creating alternative sources of income that have emerged from a range of non-timber forest products.

Nevertheless the Afromontane forests of south west Ethiopia remain vulnerable. Managing the forest for coffee has changed the tree canopy, with other plants and tree seedlings at a lower level removed to grow arabica. The cost has been that new trees struggle to grow in the altered forest floor environment. This hidden degradation was identified by Dr Kitesa Hundera of Jimma University in Ethiopia, in conjunction with Huddersfield's Dr Byongjun (Phil) Hwang, who used advanced satellite technology to track the developments that, over time, can be used to track changes in the forest. University funding will now enable the development of 3D maps of the forest. These will provide a more objective method for estimating the numbers of coffee bushes without the need for counting on the ground. Solutions are now being sought through the partnership with Jimma University that Huddersfield has developed.



▶ Harvesting coffee beans



▶ Ethiopian team members

Charting progress to bring clean, reliable power across Africa

Small, affordable solar technology can provide clean, reliable power to the 600 million Africans who live without access to electricity. As part of Matthew Snell's doctoral research at the University, he is investigating an innovative social enterprise that aims to spread the technology which provides lighting and can power up mobile phones, laptops and other devices with the distribution of 'pico solar' products. These have a power output that is less than 10 watts, using photovoltaic cells to generate electricity from sunlight.

The social enterprise is Sunny Money, established in 2008 by the NGO Solar Aid. Currently working in Uganda, Malawi and Zambia, it has developed various methods to distribute pico solar product to Africans who have no grid-based source of electricity, meaning that they resort to candles, kerosene, wood, torches and car batteries to generate light and heat. As pico solar technology has developed, so have the business models adopted by Sunny Money and Mr Snell has been monitoring this evolutionary process – for example agents who supplement their income by distributing pico solar products, and community health workers who distribute medical supplies including solar lighting equipment – for his PhD thesis, due for completion in 2022.



GDRC wins Newton Fund award for pandemic planning project

The University's Global Disaster Resilience Centre (GDRC) is bringing its expertise to bear in a project to help disadvantaged countries prepare for pandemics.

The research will help Sri Lanka and the wider region to better prepare, respond and recover from disruptions caused by pandemic threats.

The project will see researchers and experts from the UK and across developing countries working in partnership to directly address the negative impacts of COVID-19 on communities which are already vulnerable due to long-term conflict, food and water shortages and crowded living conditions. These awards are the first tranche to be announced by UKRI funded through the GCRF and the Newton Fund.



Life-Saving Lullabies spread health warnings against COVID-19

Researchers are harnessing the power of song to spread vital healthcare messages – including COVID-19 precautions – among African women.

The project – titled Life-Saving Lullabies – is focussed on Zambia and works by encouraging volunteers to create lively lullabies in their local languages that they then perform to women who visit maternity clinics. The songs are a memorable way to convey important information about birth and childcare, but the onset of coronavirus now means that songs are now being created that relay the importance of precautions, such as social distancing.

The Life Saving Lullabies project has been developed by the educationalist Dr James Reid and the historian Professor Barry Doyle. They

are collaborating with the design expert Professor David Swann, once a colleague at Huddersfield and now based at Sheffield Hallam University. The UK team – awarded £129,795 by the AHRC – is working alongside St John Zambia, a leading healthcare provider in the African country.

“We were at St John Zambia for a workshop talking to women volunteers about their own experience of motherhood. Then they started to sing and we looked at each other and went ‘that’s it!’” said Dr Reid.

Dr Reid said that he and his colleagues had been “overwhelmed” by how volunteers and maternity clinics in Zambia responded to the project. “These women are so talented. They have

gone away and written songs and performed them to local women and it’s having an effect,” he said.

Now, the project is underway and volunteers in Zambian clinics, after being told what information the Ministry of Health needs to impart, have been creating and performing songs. They can be seen and heard online and researchers will gauge their impact.

The AHRC funding runs until March, but the project could be extended and at the conclusion there will be a symposium in Zambia, and the possibility of spreading the scheme to other African countries.



► Rhoda Ndubani, local researcher

Strategic research partnership with Pakistan



► Dr Muhammad Usman Ghori

A fresh, clean water supply will be a reality in Pakistan, particularly in South Punjab, following the announcement of an international partnership spearheaded by the Pakistan government, alongside other key stakeholders, and driven by the University.

The initiative, led by Senior Research Fellow Dr Muhammad Usman Ghori, will transform the water supplies in the region into affordable drinking water. The solution to providing a clean water supply is present in abundance in the region’s Koh-e-Suleiman mountain range in the form of a raw nanoclay with properties that can be targeted for a number of health-giving applications. Montmorillonite clay is an abundant and versatile natural nanomaterial; it is prized for its tremendous absorption and antimicrobial properties. Further work in collaboration with Pakistani universities and research institutes is now under way to use this natural resource for the

benefit of the local people, not just in purifying the water supply, but for further industrial applications that would expand the economy of the region and provide work and industry for its people.

However, despite the clay deposits being very accessible and easily mineable, they are situated on government property and to ensure further funding the idea needed to involve Pakistan authorities at all levels. A Memorandum of Understanding has been signed that will initiate a strategic partnership to develop a network led by Huddersfield with the support of the Pakistan government which will also include universities in Pakistan.



► (L-R) Dr Muhammad Usman Ghori, Andleeb Abbas, His Excellency Shah Mehmood Qureshi, and His Excellency Mohammad Nafees Zakaria

Inspiring



University signs the Race Equality Charter

In October 2020 the University signed up to Advance HE's Race Equality Charter (REC).

The REC helps universities to improve the representation, progression and success of Black, Asian and Minority Ethnic (BAME) staff and students within higher education. It provides a comprehensive framework that

institutions use to identify and self-reflect on institutional and cultural barriers standing in the way of BAME staff and students.

Professor Jane Owen-Lynch, Pro Vice-Chancellor (Teaching and Learning) and Chair of the University Equality, Diversity and Inclusivity Enhancement Committee said: "We are delighted

to sign up to the Race Equality Charter. We are committed to the promotion of race equality as part of our wide-ranging equality, diversity and inclusion aspirations. The framework will enable us to work towards positive improvements in representation and narrowing of racial inequalities across the University community."

Carbon neutral strategy

In response to the climate emergency, the Students' Union joined the University's senior leadership and colleagues working in roles across the institution, to build upon the carbon reduction interventions already undertaken,



▶ The award-winning Barbara Hepworth Building's energy efficiency helped the University achieve its 2005-2020 carbon reduction target

and to work together to establish a net zero carbon emissions target as a response to the Paris Agreement.

A steering group was established in early 2020, chaired by Professor Tim Thornton, Deputy Vice-Chancellor, with the Students' Union and researchers in climate change plus representation from academic staff and support services including Estates and Facilities Management. The group of staff and students collaborated to produce the Carbon neutral strategy: A Ten-Point Plan for the Planet and it was adopted by the University Council on 25 November 2020.

The plan reflects the strong commitment to achieving carbon neutrality across all areas of the University. It aims to address the breadth of sustainable development whilst establishing new net zero

targets for Huddersfield. As part of this plan, Huddersfield will achieve net zero carbon emissions for scope 1 (emissions from sources directly owned or controlled by the University) and scope 2 (generated by use of energy bought from a utility provider) by 2030, and for scope 3 (occurring from sources that the University does not own or control, for example covering emissions associated with business travel, procurement, waste and water), by 2045. The plan covers research, curriculum, wellbeing, digital infrastructure and biodiversity.

This builds on the University's long-standing dedication to sustainability and environmental improvement, and the University achieved its 2020 scope 1 and 2 carbon reduction targets.

Broaden My Bookshelf

Broaden My Bookshelf is an initiative to increase the range of books in the Library written by people from a BAME (Black, Asian and Minority Ethnic) background, and also books by and about LGBT+ people.

Broaden My Bookshelf forms part of a set of initiatives aiming to address the BAME attainment

gap. At the University there is a gap between UK white students and UK Black, Asian and Minority Ethnic students achieving a First Class Honours degree. Finding ways to contribute to tackling this issue is crucial and a library is in a central position within the academic community to help advocate and take positive action. The issue of diversifying library collections is currently a key question within the library and wider higher education sector.

This is a response to the growing movement in Higher Education focused on questioning whiteness and the attainment gap. Huddersfield has recognised the importance of making steps towards change within the institution.



Athena SWAN Bronze Award for Gender Equality

In its continuing commitment to equality, the University was very pleased to announce the renewal of its Athena SWAN Bronze Award for gender equality.

The Athena Swan Charter is a framework which is used across the globe to support and transform gender equality within higher education and research. The charter guides institutions on how to achieve their gender equality objectives in terms of representation, student progression, career development and working environment.

This demonstrates how everyone at Huddersfield behaves towards students, each other, and

everyone the University comes into contact with in its work. This award not only provides recognition of what has been achieved to date, but also the commitment to address the main gender challenges still faced in the under-representation of women in senior posts and the gender imbalances in specific schools and departments.

As part of this achievement, it was delighted to announce particular successes for the School of Music,

Humanities and Media, and the Business School. The Business School joins a small yet prestigious group as only a select group of other University business schools to have achieved an Athena SWAN Bronze award.



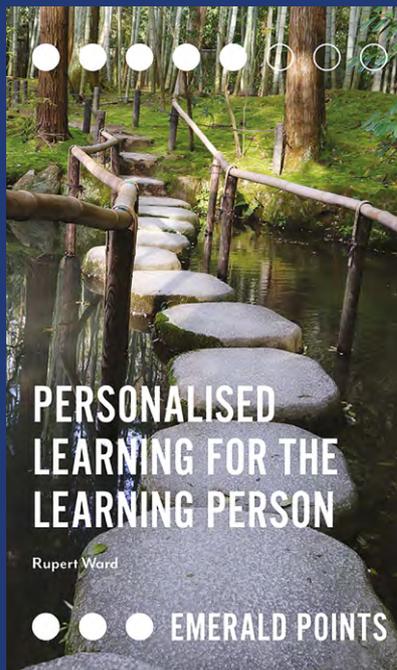
Now is the time for a learning revolution

Professor Rupert Ward, Professor of Learning Innovation and Associate Dean (International), is calling for a revolution in education, so that learning is tailored to the needs of the individual and society in order to help tackle our biggest global threats. In his new book *Personalised Learning for the Learning Person* he considers how this transformation could happen.

Professor Ward sees the iDEA model – a free online programme of which he was Project Lead that develops digital, enterprise and employability skills – of incremental steps along the path of learning, as more suited to the world today.

His view is that the online space is ideal for personalised learning that suits the individual, from early school age through to lifelong adult education.

A new approach to education will, in Professor Ward's opinion, help current and forthcoming generations tackle more widespread threats, such as climate change and public health.



▶ Professor Rupert Ward

COVID-19 miracle survivor praises student nurse on ITV's Good Morning Britain



▶ Emily Donaghy

Emily Donaghy, a pre-registration student nurse, was one of the scores of students who have been working on the front line in the fight against the virus. Emily was invited to appear on ITV's Good Morning Britain to speak to a miracle survivor of COVID-19 who Emily and her colleagues had recently taken care of. The student nurse appeared on the national morning news programme alongside her NHS mentor and ward sister Davina Corrigan-Taylor who also had special words of praise for the student, describing her as a credit to her university. After qualification Emily will be based in the respiratory ward at Pinderfields Hospital in Wakefield.

Healthcare students to help with NHS's battle against COVID-19

With the agreement of the Government and various bodies in tandem with the Nursing and Midwifery Council, over 400 students from the Department of Nursing and Midwifery spent the closing months of their courses on clinical placement in hospitals.

The Department Head, Professor Barry Tolchard, worked closely with NHS trusts so that the students were best deployed around the region. Many of the University's experienced health tutors helped out

as well. Although the students had not finalised their degrees, they all had experience of working in hospitals and other healthcare settings.

Deputy Vice-Chancellor Professor Tim Thornton said that he was proud of the role that the Department of Nursing and Midwifery and its students would play in rising to the challenge of coronavirus. "We have been training a large cohort of excellent professionals who really will make a difference," he added.

Black History Month

Black History Month falls in October every year and is aimed at celebrating the culture, origins, histories and achievements of different black communities. In 2020, our Black History Month programme was pulled together by the Students' Union BAME Ambassadors in collaboration with the Students' Union Voice and Events team.

Each week of Black History Month was themed around a key topic to openly explore and, as Black History Month was kicked off with Nigerian Independence Day, the first theme was celebration. This made up the backbone of the month, with black communities having a dedicated space to be proud of their culture, heritage and history. The second theme put the spotlight on the work the BAME Ambassadors do under the headline "heroes." This was followed by a discussion on finding the right language to navigate sensitive issues that can lead to learning from each other. As one of the most important ways to combat racism, the next theme was allyship. It is often difficult to know where to start to combat racism and this week focussed on how to be a good ally to black communities and learn together. Finally, as Black History Month drew to a close, the University community shared some stories of our own students.

The programme combined a full mix of virtual events with a series of online workshops, videos and webinars to allow all to celebrate and learn. As part of this programme, Tré Ventour addressed race issues, social justice and how to become anti-racist in his workshops. In an online exploration workshop hosted by the Students' Union using the 'We're Not Really Strangers: Race & Privilege' card game, hard conversations on race and privilege were facilitated with 25 questions and wildcards to dig deeper. Meanwhile student society HudMovies hosted a wide range of films to showcase and represent black culture.

Innovative

Huddersfield research predicted anti-COVID steroid benefits

A study from early in the global coronavirus pandemic that evidenced the benefits of using steroids to combat COVID-19 in severely ill patients could have saved lives, according to the Huddersfield researchers involved.



▶ Dr Hamid Merchant



▶ Dr Syed Shahzad Hasan

Dr Hamid Merchant and Dr Syed Shahzad Hasan assessed the results of using corticosteroids such as dexamethasone on hospitalised COVID-19 patients with acute respiratory distress syndrome (ARDS) who were on respiratory support.

By mid-April they had found that the proportion of COVID-19 patients who died in the steroid group was significantly lower compared to those who did not receive corticosteroids, at 28 per cent vs. 69 per cent. Their research has now been published in the *Expert Review of Respiratory Medicine* following a lengthy period of scrutiny and peer review.

The Huddersfield academics' work highlights the issues involved in scrutinising scientific evidence, as well as costs involved in research and the UK's preference for evidence-based practice. Oxford University's RECOVERY trial came to similar conclusions to the Huddersfield researchers in mid-June, leading to the UK government's decision that dexamethasone could be made available to patients, a move being followed around the world.

Scientists get to grips with COVID-19

The University has awarded funding to a research team that aims to provide a head start in developing drugs that will combat future pandemics.

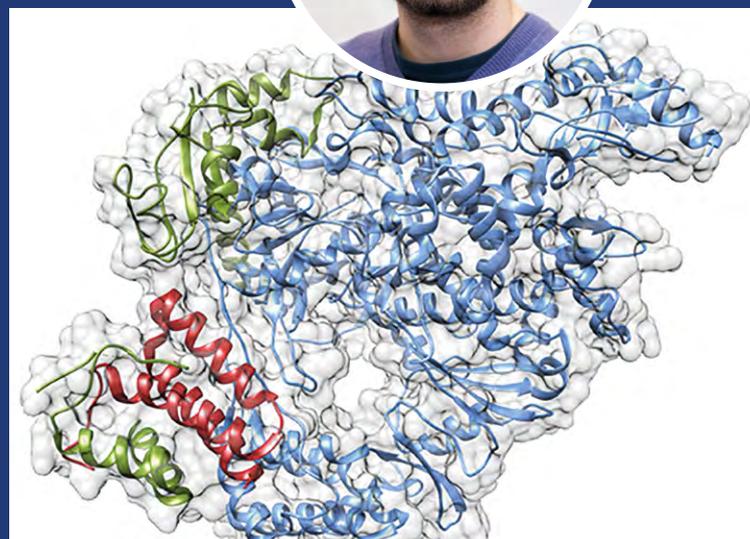
Equipped with newly-acquired software, the project will carry out computational analysis of the structure of some of the proteins that are involved in SARS-CoV-2, the virus that causes COVID-19. This greater understanding can open the way to drug development, said Dr Chris Cooper, a senior lecturer in the Department of Biological and Geographical Sciences.

Huddersfield has established a "pump priming" research fund for projects dealing with the current pandemic.

The team's bid for funding was successful and has enabled the purchase of ICM Pro software that helps to predict and analyse the structure of proteins. The team can deploy X-ray crystallography approaches to gain greater understanding of the biological science behind the virus.



▶ Dr Chris Cooper



▶ 3D representation of the SARS-CoV-2 RNA polymerase enzyme, responsible for copying the viral genome

Physical and mental health tele-health scheme helps lone elderly

The lockdown has made an impact on the wellbeing of vulnerable people, even if they have avoided coronavirus. However, Huddersfield has pioneered an audio-visual telehealth-coaching service that has helped older people preserve and boost their physical and mental health with 32 students and eight lecturers.

Launched on 1 June 2020, in collaboration with Age UK Wakefield District, the new service draws on the expertise of students and their lecturers in the twin disciplines of occupational therapy and physiotherapy. Older people who were able to use audio-visual technology took part in six sessions over three weeks and received specially-tailored advice and encouragement. Age UK located potential users of the service and circulated them with referral forms

that provided the Huddersfield students and lecturers with the data they needed to launch the individualised audio-visual sessions.

Bethan Heberd, who lectures in physiotherapy at the University and is one of the clinicians who have developed the project, explained that at a very early stage in the pandemic she and her colleagues, including Head of the Division of Health and Rehabilitation, Dr Benita Powrie, realised the effect it was having on health and wellbeing beyond the virus itself. The answer was to pilot a new tele-coaching service, in which students – supervised by their qualified clinician lecturers – offer advice via audio-visual links.



Health staff need training for COVID-toes, leading expert warns



▶ Dr Leanne Atkin

Dr Leanne Atkin, a vascular Nurse Consultant and senior lecturer, has sounded the alarm on a

newly-identified symptom of the coronavirus.

Dr Atkin has witnessed a sharp increase in the amount of patients being referred to vascular clinics

with similar symptoms to arterial disease and who then test positive for COVID-19. The dermatological manifestation known as COVID-toes was formally identified as being a symptom of COVID-19 in April by Spanish podiatrists and appears as asymmetrical lesions which can look very similar to chilblains.

Since April, Dr Atkin has noticed an alarming rise in the number of patients requiring specialist vascular review with acute limb ischemia and

perfusion injuries, all of which are related to the COVID virus. Acute limb ischaemia, Dr Atkin explains, is a restriction in blood supply to tissues and can cause a shortage of oxygen that is needed for cellular metabolism which keeps the skin tissue alive.

This can result in patients having to undergo limb amputation and if COVID-toes goes undiagnosed, the possible spread of infection is also greater.

Latest COVID-19 study shows young people worried for their future



▶ Dr Andy Mycock

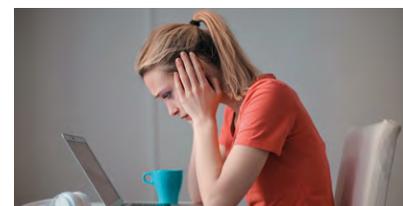
Today's young people can be dubbed the "Coronavirus Generation" and the pandemic will have a long-

lasting effect on their lives, according to Dr Andrew Mycock, Reader in Politics, who has helped analyse the data from a research project that aimed to appraise the impact of the virus on UK youth. Findings include statistics which show that more than 90% of young people were stringently observing the lockdown and that 80% of them are seeking

news not from social media but from traditional outlets, including ministerial briefings. But there are negative strains on young people's family relationships and 65% of young people said they were worried about their mental health in light of COVID-19.

The report named Take the Temperature makes a series of recommendations, including a call for the Government to establish a National Young Person's Response Unit. Also, local authorities and businesses need to build young people into their recovery task forces and there should be

statutory digital citizenship education programmes to provide young people with the digital literacy to equip them for the 'new normal'. The report is now landing on policy makers' desks and its producers hope that it will help the Government think about how it brings young people into debates after lockdown.



Pregnancy and COVID-19 lessons so far

Professor Padam Simkhada and PhD researcher Pasang Tamang have co-published an article titled “Pregnancy and COVID-19: Lessons so far” on the current knowledge of the effect of COVID-19 on pregnant women and babies.

The article states that so far little is known about the effect of COVID-19 on pregnant women and babies and the evidence for transmitting the virus from mother to baby is inconclusive.

One study has shown some evidence that the virus can pass from an infected mother to her baby, but no major harmful effects have been recorded.

The article includes advice to expectant mothers on how to avoid the virus. It includes postponing any social events such as baby showers.



► Professor Padam Simkhada

DNA sampler loaned to Government for COVID-19 testing

Huddersfield scientists responded to a request from 10 Downing Street for high-tech equipment in the Government’s efforts to increase the testing of the public for coronavirus.



► University loans DNA sampler to the Government for COVID-19 testing

The University aided the campaign against coronavirus with the donation of large quantities of protective gear for frontline health workers, and also by providing high-tech equipment to boost the Government’s goal to ramp up the virus-testing regime.

A network of facilities known as Lighthouse Labs has been established, but to scale up their work they needed larger numbers of advanced polymerase chain reaction (PCR) machines.

These can take a tiny sample of DNA and amplify it so that it can be studied in detail. The School of Applied Sciences possesses a ThermoFisher 7500-Fast PCR machine, used for forensics courses.

When a unit based at 10 Downing Street asked for the loan of the equipment, the School’s Dean, the biochemist Professor Michael Ginger, readily agreed.

“The Government is looking for PCR machines validated for use in a gold standard analytical context. There is only a finite number in the UK,” he said. It was taken away to aid the target of carrying out 100,000 COVID-19 tests every day.



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