



UNIVERSITY OF
OXFORD



Philanthropy Report 2019/20



Welcome

Throughout this difficult and unusual year, the support of donors has provided an enormous boost across the University. From frontline research to scholarships, building projects and public engagement, donations are helping to ensure that our students and staff can realise their full potential and continue to engage with new and existing audiences.

In response to the coronavirus pandemic, Oxford's role as a global leader in research was firmly in the spotlight this year – as was the role of philanthropy in helping to accelerate this vital work. Many colleagues continue to work tirelessly both to lessen the impact of this devastating virus and to ensure that we are better prepared for future crises.

While we are living in challenging times, we can derive confidence and optimism from the expertise that exists within our academic community, from the students who are learning to become the leaders of tomorrow, and from the work that is being undertaken to disseminate knowledge to people around the world. Thank you for helping to support this.

Liesl Elder
Chief Development Officer
University of Oxford

Cover image

– Inside the Radcliffe Camera (photograph taken before 2020) © Oxford University Images / David Williams

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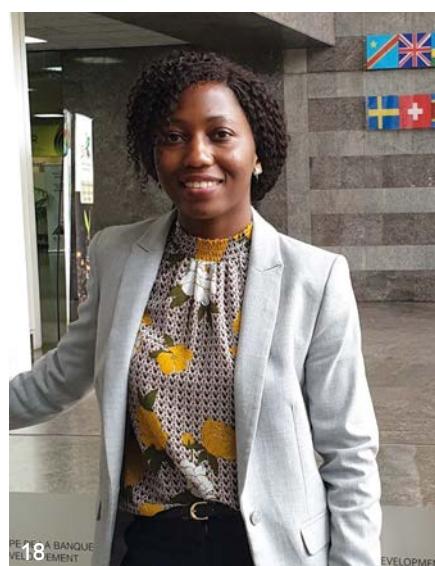
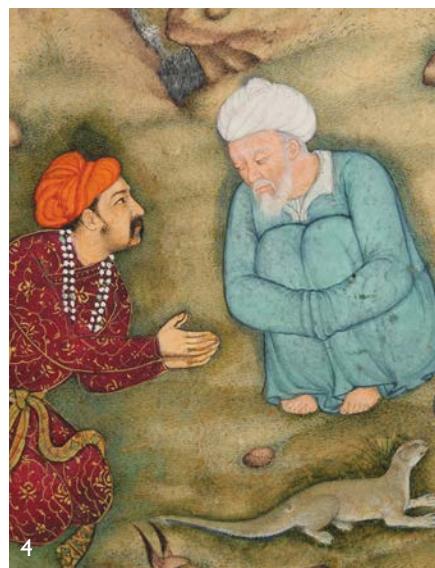
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MSc Water Science, Policy and Management graduate Claire Nakabugo is contributing to local, national and international conversations about sustainable water management



Further reading

Discover more about the impact of your support at:
www.development.ox.ac.uk/report2019-20

Right, from top: Vaccine research at Oxford;
A miniature painting from The Douce Album, which was bequeathed to the Bodleian Libraries in 1834 (MS. Douce Or. a. 1);
A Gujarati cotton textile fragment dating from the late 13th century or 14th century (EA1990.823.a)
© Ashmolean Museum, University of Oxford;
Swarovski Foundation Scholar graduate Claire Nakabugo at the headquarters of the African Development Bank

News highlights



Leading the way in pandemic research

As you will have seen in the news, researchers at Oxford have been playing a leading role in tackling the challenges of the coronavirus. From rapid vaccine and drug development to furthering our understanding of the mental health implications of the pandemic, experts from across the University are at the forefront of global efforts to mitigate the effects of COVID-19.

Donor support has had a significant impact on the University's ability to react quickly to the crisis, with gifts of all sizes enabling Oxford to accelerate research in a number of key areas. Alongside wide-ranging support from members of the public, a variety of major gifts have been instrumental both in fast-tracking Oxford's COVID-19 work and in ensuring

● Donor generosity has been instrumental in enabling the University to respond so swiftly to this unprecedented situation ●

Professor Sir John Bell

greater preparedness for potential future outbreaks.

Generous donations have helped to endow two key professorships in the field of vaccine research and development. As well as boosting current work on COVID-19, this support will help Oxford to continue to deploy its world-leading expertise in vaccine development for generations to come. As well as supporting academic posts, donors are funding graduate scholarships in the field, providing opportunities for the vaccine specialists of the future to further their knowledge.

In other areas, major gifts have been helping the University to address a broad range of mental health issues arising from the coronavirus, such as feelings of isolation, anxiety and disconnection from social networks. This work is not only having an impact in the present; it will also help to build resilience in the face of future crises.

Research with the potential to improve preparedness for any subsequent novel pathogen outbreaks was also boosted through a gift to the Department of

Above: Donor support is enabling the University to deliver and grow its world-leading vaccine research

● We are determined to ensure that Oxford is at the forefront of ongoing efforts to mitigate the impact of future pandemics ●

Professor Sir John Bell

Zoology, which enabled researchers to conduct a UK cross-sectional survey into the level of community-based infection of COVID-19. By understanding the prevalence of the virus, public health authorities are better placed to implement an informed response.

Regius Professor of Medicine Sir John Bell said: 'Donor generosity has been instrumental in enabling the University to respond so swiftly to this unprecedented situation. While we continue to make progress on a wide range of issues arising from COVID-19, we are also determined to ensure that Oxford is at the forefront of ongoing efforts to mitigate the impact of future pandemics. Thank you to everyone who is supporting us.'

Creating opportunities for Black British students

The University's first dedicated scholarship for disadvantaged Black British students has recently been established. Supported by Silicon Valley entrepreneur Arlan Hamilton, the Oxford–Arlan Hamilton and Earline Butler Sims Scholarship will fully cover the fees and living costs of one undergraduate student for the duration of their studies. The scholarship programme will support three scholars in total, beginning in 2020–21.

In addition, the scholarship will include a grant of £3,000 to enable each beneficiary to access internships in order to enhance their employability, as well as providing them with the opportunity to work with the Oxford Foundry, the University's student entrepreneurship centre.

The scholarship is open to UK undergraduates of Black African and Caribbean heritage from disadvantaged backgrounds, with the first scholarship holder having recently commenced their studies at Oxford.

Explaining her motivation for making the gift, Arlan Hamilton said: 'I just really want someone who didn't, or wouldn't, have had the opportunity to go to this University, to do so. I want them to be truly nurtured and able to focus on themselves, instead of worrying about the things that perhaps I have had to worry about in the past – like how you are going to pay your rent, while trying to get an education. I want them to be able to focus on the things that fuel and give them life.'



Landmark gift for Oxford's newest college

In June this year the Reuben Foundation made a landmark £80 million donation in support of Oxford's newest college, including the establishment of a major new scholarship programme for graduate students and a significant expansion of the Reuben Scholars undergraduate programme.

Reuben College was founded as Parks College in 2019 and is the first new college to be set up at the University in three decades. Situated across a range of buildings on the historic Radcliffe Science Library site, the college will provide a new base for graduate students who are keen to pursue interdisciplinary study and address key challenges of the future. By bringing together academics and students from traditionally different disciplines to work on key themes and real-world issues, the college will foster a culture of innovation

Now, more than ever, our society needs a new generation of highly educated researchers to address the global challenges that transcend national borders.

Professor Louise Richardson

while promoting diversity, sustainability and engagement with the public.

Under the leadership of Professor Lionel Tarassenko, President of Reuben College, the college's initial research themes are artificial intelligence and machine learning; environmental change; and cellular life, which includes ongoing work in understanding COVID-19 and the current pandemic. The first students will take up their places in October 2021.

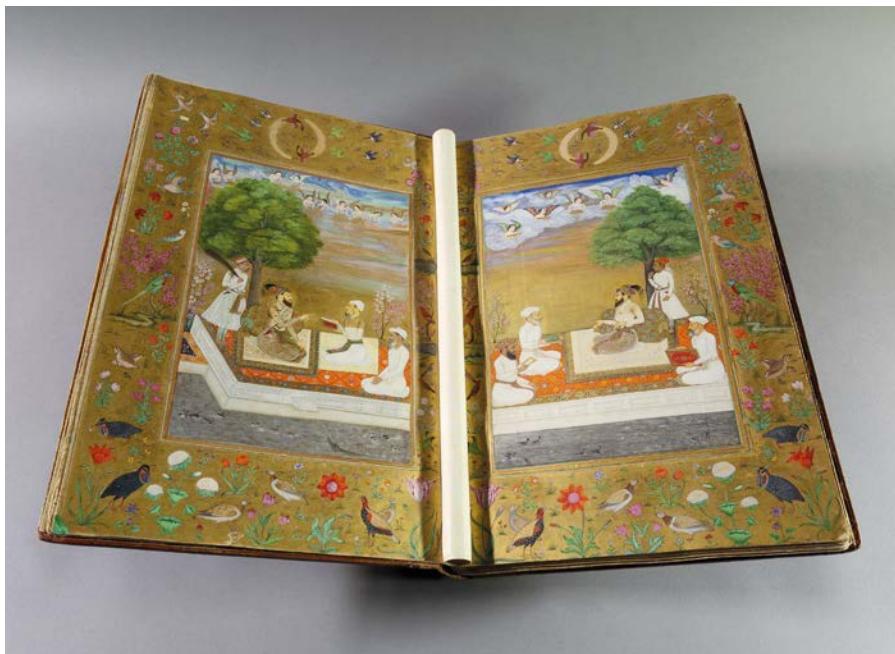
As well as providing a substantial endowment for the college, the gift also expands the existing Reuben Scholarship Programme, which was established in 2012 for disadvantaged undergraduate students, and creates new graduate scholarships for students at Reuben College. The Oxford–Reuben Graduate Scholarships will help attract the world's most talented graduate students to the University.

Commenting on the gift, Professor Louise Richardson, Vice-Chancellor of the University, said: 'Now, more than ever, our society needs a new generation of highly educated researchers to address the global challenges that transcend national borders. This gift represents a vote of confidence in Oxford, a vote of confidence in the power of research to solve societal problems, and above all, a vote of confidence in the future.'



Left: Arlan Hamilton is the founder of Backstage Capital, a venture capital firm that exclusively invests in companies founded by women, people of colour and LGBTQ entrepreneurs.
Above: Reuben College will be based in central Oxford in the heart of the University's science area

Thanks to your support...



...precious collections are being conserved at the Bodleian

The Bodleian Libraries are home to more than 13 million printed items, over 80,000 e-journals, and outstanding special collections including rare books and manuscripts, classical papyri, maps, music, art and printed ephemera. Not only are these holdings a vital resource for Oxford's students and researchers, they are also regularly accessed by audiences from around the world for academic study or for personal interest.

The Bodleian's manuscripts and archives are more heavily used than at any previous time in its history, exposing these items to inevitable wear and tear. To ensure that they can continue to be used and enjoyed by future generations, the Bodleian this year launched an appeal to raise £40,000 to help conserve and digitise some of its treasured and rare manuscript and archive collections.

Almost £67,000 was generously given by 295 supporters, surpassing the Bodleian's original target. These donations will help fund the conservation of the Mendelssohn collection, which includes 27 fragile volumes or 'Green Books' of Mendelssohn's correspondence – a key

resource for musicologists and musicians, and for scholars interested in the Romantic movement more broadly.

After the appeal was featured in *The Times*, a single donor was able to fund the conservation of a rare 17th-century Mughal miniature collection. Known as 'The Douce Album', the manuscript of exquisite miniature paintings and calligraphy was originally assembled for a member of the imperial family of Shah Shuja.

Richard Ovenden, Bodley's Librarian, said: 'As well as funding essential conservation treatments – ensuring these rare and important manuscripts can be safely handled, studied and displayed – these donations will allow the Bodleian to improve its digitised collections and provide access to these rich resources for scholars and researchers working around the world.'

While the Bodleian had been closed to 'in person' visits for a period during the height of the coronavirus pandemic, people across the globe were still able to access its digitised holdings, underlining the importance of both conserving and digitising these irreplaceable items.

...our students and staff affected by COVID-19 are being assisted

While COVID-19 has disrupted life across every aspect of the collegiate University, a significant number of staff and students, particularly those studying at the graduate level, have been confronted with financial hardship. While many students have faced the possibility of having to suspend or extend their studies due to loss of income from holiday work or having to pay for additional rent, a number of staff members have also struggled to cope financially, for example where their partner has been made redundant.

In response to this, a student and staff hardship appeal was launched in May 2020 to provide emergency support and to ensure the viability of continuation of study for Oxford's student population. By the end of August, more than £650,000 had been raised from over 470 donors,

Without access to hardship funding, I would not have been able to pay for my rent for the last two months of my studies.

Linacre College student

including generous support from Crankstart, Santander and donors who have given via the Vice-Chancellor's discretionary fund. The donations are being deployed immediately to support those most in need. Over 300 applications have been made to the fund, with more expected as the ongoing impact of the crisis becomes apparent.

A graduate student from Linacre College underlined the significance of this support: 'I was doing my MSc in Social Anthropology and had been supporting my living costs with a part-time research fieldwork position. When the pandemic hit, my funding was frozen. Without access to hardship funding, I would not have been able to meet my living expenses and pay for my rent for the last two months of my studies.'

Opposite: The Douce Album is the Bodleian's finest album of Mughal miniature paintings and calligraphy (MS. Douce Or. a. 1.)

Below: Amol Neupane cycled 300 kilometres in ten days to raise money for Oxford's COVID-19 research



...the University has responded rapidly to the threat of COVID-19

In addition to a range of major gifts in support of Oxford's coronavirus research activities (see p2), the public have also provided tremendous support for this vital work. Launched in April 2020, the COVID-19 Research Response Fund (CRRF) has harnessed the power of collaborative giving and donations of all sizes have made a significant impact on the University's ability to respond rapidly to the virus.

By the end of August over £8 million had been deployed through the CRRF, which has awarded funding on a competitive basis for near-term, urgent COVID-19 research. This has enabled the University to target high-priority research capable of having an immediate impact across areas such as vaccine development, drug delivery, mental health and the socio-economic fallout of the pandemic.

The fund has attracted gifts from all around the world, with a number of supporters even setting up their own fundraising drives via the University's Virgin Money Giving page. For example, over £65,000 was raised by people undertaking a range of extraordinary challenges and projects, including a

Every gift is having a real impact in funding research that will help us contain or end this pandemic

Professor Gavin Screamton

36-hour sports 'coronathon', a virtual cycle ride across the USA and the release of a song, 'Hand of Hope', penned by Alexander McCall Smith. The work being done at Oxford has inspired people of all ages too: Jack Burston (13) and Amol Neupane (9) took on challenges of their own involving swimming and cycling and have raised over £7,000 between them.

Professor Gavin Screamton, Head of the Medical Sciences Division, said: 'The support that we have received has been incredible and we are enormously grateful to everyone for their contribution. Flexible funding is of paramount importance and donations of any size are truly vital in enabling us to accelerate innovative and time-critical research. This collective effort has made a significant difference and every gift is having a real impact in funding research that will help us contain or end this pandemic.'

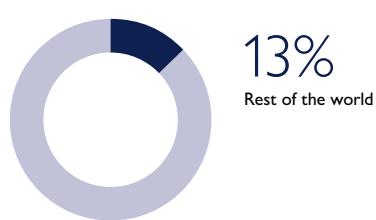
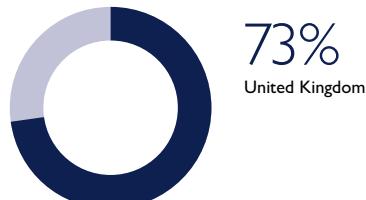
Philanthropy statistics 2019/20

Amount raised this year
(University, colleges and the Rhodes Trust)

£316 million

1 August 2019 to 31 July 2020

Where donations come from
(University only)



Destination of gifts by area
(University only)

Academic posts and programmes

34%

Student support

6%

Other (including Reuben College)

59%

Closing the diversity gap in computer science

DeepMind Computer Science Scholarships give talented graduate students from under-represented backgrounds a chance to reach their full potential.

'I think that, as a woman, only when you see other women who influence and inspire you do you realise that you've been lacking that your whole life,' reflects Mizu Nishikawa-Toomey, a recent graduate of the MSc in Computer Science. 'And that maybe the decisions you've made are a result of that lack of inspiration. For instance, when I was at school I never thought that computer science was an option for me.'

It was only after picking up a Raspberry Pi computer that Mizu discovered an interest in programming. She was part way through an undergraduate degree in physics at the time, but was curious enough to pursue it on graduation. A job at a DNA sequencing company followed. 'I ended up in the algorithm research team with four older men and felt very out of my depth,' she says. 'I wanted to establish my field of expertise.'

It was this desire that led Mizu to apply to study computer science at Oxford, where she became one of the first DeepMind Scholars. Established through a generous gift from leading British artificial intelligence company DeepMind in 2018, the scholarship programme seeks to support and encourage under-represented groups in the field to pursue postgraduate education.

Across the UK, female and ethnic minority students are significantly under-represented in computer science, leading to a loss of talent and innovation in both academia and industry. This diversity gap is the result of a range of complex and interrelated structural and social barriers, including access and exposure to the subject, and

the continuing perception that computing is only suited to certain groups. At graduate level these issues may be compounded by the cost of study, which can often deter those from under-represented backgrounds from persevering.

'I had a lot of issues regarding my self-confidence during my first term,' says Mizu. 'I had this strong feeling of imposter syndrome and could really relate to the idea that minority groups suffer more from self-doubt. I hadn't taken any courses in computer science before and felt very intimidated by the people around me. I didn't know whether I could pass.'

Acknowledging that barriers to graduate participation in the field extend beyond the financial, DeepMind has worked with Oxford to provide scholars with a broad range of support. As well as being assigned a mentor from the company, Mizu was invited to DeepMind's headquarters, where she learned how to improve her CV and what to expect at a doctoral interview. She also had the opportunity to ask questions of DeepMind co-founder and CEO, Dr Demis Hassabis.

'It was a huge motivator,' says Mizu. 'It made me feel like I was within grasp of something really great, and that I just had to reach a little further to get it.' DeepMind's support also provided a boost when her confidence was at its lowest. 'When I was having a bad day I would just remember that someone else had faith in me.'

The friendships that Mizu developed with other women in the field, both through the scholarship programme and at other institutions, were hugely beneficial too. She also began to seek out examples of women who had made their mark before her, such as American physicist and computer scientist Arianna W Rosenbluth. 'She came up with one of the greatest algorithms of the 20th century, the Metropolis-Hastings algorithm,' explains Mizu. 'As soon as I found this out I latched on to it; it was just so inspiring.'

Discovering role models – both similar in age and those more advanced in their careers – brought home



● The fact that big institutions like DeepMind want to make a difference to this issue was a massive motivation to work harder ♀

Mizu Nishikawa-Toomey

to Mizu the importance of visibility. ‘If you don’t see people like yourself in the field then it’s very easy to think that this is something you won’t be innately good at,’ she says. ‘And actually I have met people who feel that the reason women are under-represented is because they’re not as capable. That view doesn’t always come from those who are trying to impede your development either, it’s just something that’s ingrained.’

Increasing diversity within computer science is critical to changing perspectives like these, and to ensuring that research within the field is relevant and beneficial to the whole of society. At Oxford, a wide range of outreach programmes across the STEM subjects encourage students from under-represented groups to develop an interest in science and pursue their studies – efforts that are already beginning to pay off at undergraduate level within the Department of Computer Science. DeepMind’s commitment is key to ensuring that this progress is not frustrated by lack of ongoing support once students complete their first degree.

Despite her struggles with academic confidence, Mizu relished her time on the course: ‘I couldn’t have asked for a better experience. It helped me discover the thing that I want to focus my attention on for the coming years.’ Mizu’s plan now is to spend time honing her skills in the field of Bayesian approaches to machine learning, before applying to a doctoral programme. She also hopes to travel back to her secondary school and deliver a talk to the girls there. ‘I hope that I can be the role model that was missing from my life,’ she says.

DeepMind Computer Science Scholarships are open to individuals who are ordinarily resident in the UK and who identify as female, are from Black and minority ethnic backgrounds, and/or are from households with traditionally low progression to higher education. In 2019 the company extended its commitment to under-represented groups by supporting three new DPhil scholarships in the Department of Engineering Science.

Treasured threads

Donor support has enabled Oxford to build one of the world's most important textile collections. By providing new opportunities for conservation, study and engagement, philanthropy is also the key to helping it thrive.

The Pitt Rivers Museum cares for one of the greatest textile collections in the world, outstanding for its diversity, aesthetic value and technical interest. 'It's a collection that shows how people wore textiles and what they wore them for,' says Julia Nicholson, Curator and Joint Head of Collections at the museum. 'Not just special pieces, but everyday clothing and textiles too; items with a different kind of value.'

Among the 8,000-strong collection sit Arctic intestine garments, the earliest examples of pre-Columbian textiles from South America, and Maori cloaks that show the first introductions of European materials. Many of the items have been donated or bequeathed by those who spent lifetimes collecting them, such as weaver Gigi Crocker Jones (1933–2002), who acquired an extraordinary assortment of textiles while living in Oman.

'Being a maker influenced the way that she collected,' explains Julia, 'so not only did her bequest include masterpieces of Omani textiles, but also a huge range of items related to the making process, such as looms, spindles and dyes.' The



I don't want to think of the textile collection as a treasure house because it's not just that, but it is an extraordinary resource ♦

Julia Nicholson



collection, which is made up of nearly 700 pieces and accompanied by extensive documentation on provenance and function, provides a fascinating insight into the significance of textiles in Omani culture and society.

Objects such as these have immense value to researchers, students and source communities, but despite this, only 75 items from the museum's textile collection are fully accessible at present. The rest are consigned to storage, held within a facility not suitable for purpose, and in need of conservation and cataloguing. 'We have a fantastic conservation team and we know how we should do things, but we don't always have the resources to do them as well as possible,' says Julia.

Providing greater access as well as critical conservation and care to this extraordinary collection are just some of the challenges that Oxford is seeking to meet through its new Textiles Study Centre. Projected to open in 2021, the centre will incorporate specialist facilities for textile storage, as well as state-of-the-art conservation and digitisation labs, flexible research and teaching rooms, and additional display space. It is an ambitious project that has already received significant support from The Clothworkers' Company and the Swire Charitable Trusts, although further funding is currently being sought to realise its full potential.

Once complete, the centre will open up access not only to the Pitt Rivers' textile collection, but also to that of the Ashmolean Museum, which currently holds some 4,500 items including Pharaonic linen weaving, block-printed Indian medieval trade textiles and medieval Islamic embroideries. 'It's an incredible amount of study material,' says Dr Francesca Leoni, Curator of Islamic Art in the Eastern Art Department, where the bulk of the collection sits.

As has been the case at the Pitt Rivers, philanthropy has played an important role in

Above: Collected by Gigi Crocker Jones in Oman, this camel saddle cloth was used to cover the saddle pad, which is positioned in front of the hump. 2003.9.5.8
© Pitt Rivers Museum, University of Oxford

Below: This block-printed cotton fragment from Gujarat dates from the second half of the 13th century or first half of the 14th century.

It was donated to the Ashmolean in the 1940s by Professor Percy Newberry. EA1990.161
© Ashmolean Museum, University of Oxford



building the Ashmolean Museum's textile collection over the years, with donors gifting items as well as supporting scholarship, digitisation and display. In this respect, for Dr Leoni one bequest is of particular importance: that of May Hamilton Beattie (1908–97), a distinguished scholar in the field of carpet studies.

Established in July 2000, the Beattie Archive comprises a lifetime of research: May Beattie's library of more than 1,400 books, her collection of predominantly Islamic carpets and weavings, and around 55 notebooks recording her meticulous analysis of carpets in public and private collections around the world. It is this latter element that makes the archive so uniquely significant, and such a valuable resource for scholars and students today.

Through her bequest, May Beattie also hoped to establish the foundation of the academic study of carpets at Oxford – something Dr Leoni believes can only be fully realised through the creation of a dedicated centre. 'It's funny, we have one of the most important archives of carpets but we don't really have a carpet collection as such,' she says. 'If we had a dedicated centre for textiles, we could also start building up our historic holdings.'

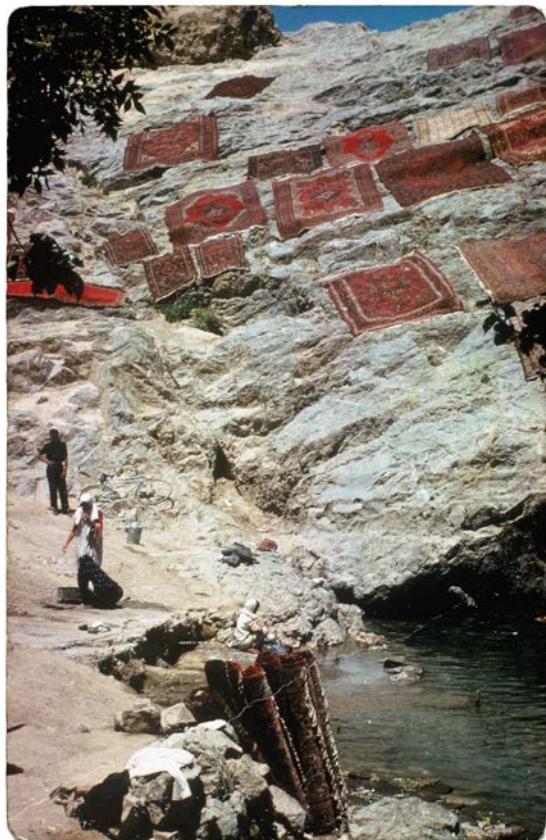
Having a dedicated textile centre as well as textile specialists working within it will also guarantee knowledge about the archive and associated material for the future. 'It will ensure that this particular body of material is not only maintained but academically framed and disseminated,' explains Dr Leoni. 'The centre is the next step towards raising the profile of the archive and carpet studies, and finally realising what May Beattie envisioned.'

The Textiles Study Centre will be located within Reuben College. It will form part of the new Collections Teaching and Research Centre, which will bring substantial areas of the University's internationally important collections together for the first time.



● A specialised textile centre as well as expertise are needed, not only to maintain and preserve the collection, but also to interpret it and ideally expand upon it ♦

Dr Francesca Leoni



Above: The Beattie Archive contains approximately 14,000 photographs taken by May Hamilton Beattie. This image, captured in the 1970s, shows carpets drying in the sun in Ray, Iran.
© Ashmolean Museum, University of Oxford

Enabling pancreatic cancer research to flourish

Philanthropic support from the Kidani Memorial Trust has set pancreatic cancer research at Oxford on a new and powerful course.



The statistics for pancreatic cancer are poor by any measure: survival rates are the lowest of all common cancers, with a five-year survival of 7%, and they have not increased in over 40 years. Eric O'Neill, Professor of Cell and Molecular Biology in the Department of Oncology, hopes to change that.

‘Because the pancreas, an organ that controls blood sugar, is right in the middle of the body, tucked in behind your liver and underneath your stomach, it’s very difficult to tell when there’s something wrong,’ he says. ‘It’s insidious: it can be growing there for 10–15 years without any real symptoms.’

Jaundice, one of the most common symptoms, arises because the pancreatic cancer grows and blocks the liver. At this point only 20% of patients are operable, and only 20% of these respond well to the surgery. Professor O’Neill adds: ‘Some people have fantastic responses to therapy, but it’s an anomaly.’

An initial donation of around £400,000 from the Kidani Memorial Trust in 2014 has had a transformational impact on pancreatic cancer research at Oxford. The funding was used to hire a junior clinician to work in a team along with Professor O’Neill, a senior clinician and two surgeons. Together they created a database of diagnostic material from 150 existing patients for analysis in as many new and novel ways as possible.

‘We were on the cusp of some really exciting findings,’ says Professor O’Neill. ‘We received a research grant from the Kidani Memorial Trust as a direct result of being able to show the progress we were making. And following on from that work, the Kidani Chair in Immuno-Oncology has been appointed, who will work to understand how established cancers and immune systems integrate. I think it’s vital that the strands of Kidani funding benefit each other because the combined impact is greater than the sum of its parts.’

Professor O’Neill stresses the importance of clinicians and scientists working together: ‘Most translational medicine works top down, so clinicians look for things that are wrong and try to figure out how to treat them. I work from the bottom up, asking: can we figure out how to make these cells work again? And this work needs to be relevant to the patient: for example, the surgeons want to

● **Philanthropic support is absolutely golden because it allows you to get to the true heart of the matter. It’s the flexibility and the honesty of it ♦**

Professor Eric O’Neill

understand which patients should have surgery and which should be treated with chemotherapy. The more we look at the mutant ‘KRAS’ gene – present in over 90% of pancreatic cancers, which is highly unusual in the context of cancers – and study any mutations around it, the more we could learn about why some people survive, and some people don’t.’

Important partnerships and relationships with other specialists in this field are now firmly established. ‘When I started there was very little pancreatic cancer research in Oxford. We are now one of five partners in a national strategy of precision



● **The Kidani Memorial Trust was the rolling stone that got all this started. How much of a factor? It was the factor because it gave us an independence to be able to drive something forward ♦**

Professor Eric O’Neill

medicine called the Precision Panc Consortium, which includes Cambridge and Glasgow universities,’ he says.

In addition, Professor O’Neill is the only non-clinician at the National Cancer Research Institute (a virtual cancer centre), as well as being on its specialist Upper GI (gastrointestinal) board; he attended an all-party parliamentary group inauguration for early diagnosis in pancreatic cancer; and he has set up collaborations with Cardiff University and, more recently, St Bartholomew’s Hospital in London. ‘We’re very outward looking,’ he says, ‘and I’m pleased that they’re happy to work with us on this too.’

Oxford is particularly fortunate in its ability to draw on key relationships in close proximity. ‘There’s a concentration of experts that’s very hard to get in other institutions because they don’t have the breadth of what Oxford has to deliver,’ says Professor O’Neill. ‘And people are at the top of their game. That’s why the philanthropic model works well here.’

Future plans are already in train and include: using artificial intelligence on the collected data to help identify patterns as signs of early stage pancreatic cancer; creating a new generation of clinician researchers trained to think in the same way as scientists; and, of course, establishing a working relationship with the Kidani Chair in Immuno-Oncology. Professor O’Neill shows no sign of scaling back ambition for pancreatic cancer research at Oxford any time soon.

What drives him? His passion for science is surpassed only by the earnest desire to deal a mighty blow to this devastating disease. He says: ‘At our outreach events, you meet survivors and those who have lost loved ones. They are just so grateful for all the effort that is being put in. You can see their appreciation that this work is being done.’



Exploring the vast world of Eastern Christianity

Professor Phil Booth's work in the field of Eastern Christianity is making its mark in teaching, in research and in its relevance to millions of people shaped by their communities' lived histories.

Stretching from the life of Jesus into the modern period, Eastern Christianity is a field that not only examines diverse Eastern Christian communities, but also embraces a wide range of disciplines, from

history and theology to art and architecture. Professor Phil Booth, originally a classicist, vividly recalls the moment when his passion for the subject was ignited: 'It was the pure intellectual excitement of discovering this vast world that was under-researched. There was an opportunity to make a real academic contribution.'

As A. G. Leventis Associate Professor in Eastern Christianity, his passion, unsurprisingly, is undiminished. 'I am interested in narratives about Christian communities that are placed very firmly in historical contexts in the period from around the 3rd to 10th centuries,' he says. 'I work at the intersection between theology and history, for which basic research tools – such as editions of major texts



Left: Byzantine mosaic from Hagia Sophia in Istanbul, Turkey

in languages like Syriac, Coptic and Arabic – have never been published. This presents possibilities for powerful academic impact.'

Oxford is one of the most important centres in the world for Eastern Christian studies, with specialist postholders in all of its related subfields; scholars can be trained in Syriac, Greek, Armenian, Arabic, Coptic, and even Pahlavi, a form of Persian. This is highly unusual but also very enabling as, with no single dominant language, narratives can be fragmented in this area.

Undergraduate teaching at Oxford has already benefited enormously from the associate professorship held by Professor Booth. He says: 'Previously, there was a big gap in the syllabus on Byzantine ecclesiastical history between the years 451 and 1000. As associate professor, I have redesigned the Eastern Christianities course to cover not only the Byzantine Empire, but also Armenia, Persia, Ethiopia, central Asia and China from 451 to 900.'

Significant progress has been made at graduate level too. Professor Booth forms part of a cross-faculty team – drawn from subject areas including Classics, theology, history, archaeology and medieval and modern languages – teaching a master's degree in Late Antique and Byzantine Studies, which is offered by the Faculty of History. It is a unique forum for training in this discipline and the study of theology and religion is now, for the first time, part of the permanent syllabus of that course. 'It's a major change that really stamps the importance of theological texts onto the cohort,' says Professor Booth.

'We have already seen graduates of those seminars move on to work at doctoral level,' he continues. 'And our graduate students are so important to our community: they are the next generation of



● The undergraduate Eastern Christianities course now offers an obvious route through the theology syllabus. Student numbers have been very good, so I'm delighted ♪

Professor Phil Booth

scholars who will go on to write the great books. A. G. Leventis's fantastic generosity and foresight in the provision of scholarships for them has been remarkable.'

Peter Frankopan, Professor of Global History and Director of the Oxford Centre for Byzantine Research since its foundation in 2010, adds: 'This wonderful and generous gift is already having a significant impact at the University. Late Antique and Byzantine Studies is a real jewel in Oxford's crown, with scholars at all levels here making extraordinary and revolutionary contributions to this subject. Phil Booth is an integral part of the scholarly community here and it is amazing to have been able to secure this position for the long term.'

'We have been enormously grateful to the A. G. Leventis Foundation for their support over many years. This is a golden age for our subject, and a reminder that the humanities are at the forefront of cutting-edge research in Oxford.'

Professor Booth is keen to emphasise the enduring relevance of Eastern Christianity: 'You need only follow debates – for example, around the recent reconsecration of Hagia Sophia as a mosque in Istanbul – to understand the importance of history and the emotions it evokes. The language used, the arguments made, the recourse to historical

● It's really striking that there is no book on Eastern Christianity in the Middle Ages, although there are many comparable books on Western Christianity ♪

Professor Phil Booth

documents... those earlier periods are not abstract, but part of communities' lived histories. They shape how people perceive the present.'

The themes of the two projects that Professor Booth is currently working on could easily be plucked from modern times. One – a collaboration with a colleague in Cambridge – is based on the effect of the environment on medieval Christians, looking in particular at a series of rebellions in the eighth century led by Christians and Muslims against the regime in Egypt. The other examines processes of community formation, in particular Egyptian Christian communities in the transition from the Roman Empire to the Islamic Empire. 'That is very relevant for modern Egyptian Christians, where relations between the Christian and Muslim communities have often been strained, particularly in the last 20 years,' he says.

It is his next project, however, that has the potential to reach a wider audience. 'The working title for the book is *Eastern Christianity: from Constantine to the Crusades*, covering the early 4th century to the 11th,' he says. 'What a post like mine enables me to do is to bring all those different traditions together into a larger narrative. I think there is a great appetite among the reading public for things like that. But they simply don't exist.'

Making waves in scientific research

A scholarship programme established in 2010 has provided over 30 students from mainland China with the opportunity to undertake doctoral research in the sciences at Oxford. Two recipients of the scholarship share their experiences and highlight the impact that this support has had on their studies.

Improving seismic hazard assessment in China

Qi Ou, DPhil Earth Sciences

Qi Ou was 16 when a devastating earthquake hit the Sichuan region of China in 2008. A magnitude 7.9 quake, it destroyed buildings and triggered landslides, resulting in nearly 90,000 deaths and leaving 4.8 million people homeless. ‘It was quite far away from my home town, but I was abroad at the time with friends from that part of China,’ she recalls. ‘It was a sensational period for all of us.’

It was this experience that motivated Qi to pursue the study of seismic hazard at doctoral level, with a specific focus on the largest recorded earthquake in Chinese history: the 1920 Haiyuan quake. Using both geological and seismological methods – a combination that enabled her to ‘see through the



Without the funding I don't think I would have dared to delve into this kind of project

Qi Ou

lens of the entire solid earth as well as look down from space at the surface' – Qi set about reassessing the earthquake's oft-quoted magnitude of 8.7.

'The conclusion of my study was that the magnitude has been overestimated,' she explains, 'and that's important because the size of an earthquake will determine the energy budget, but it will also affect the frequency of other seismic events in the area. So if you have a big earthquake taking all of the energy then the subsequent events will be less frequent or smaller, and vice versa.'

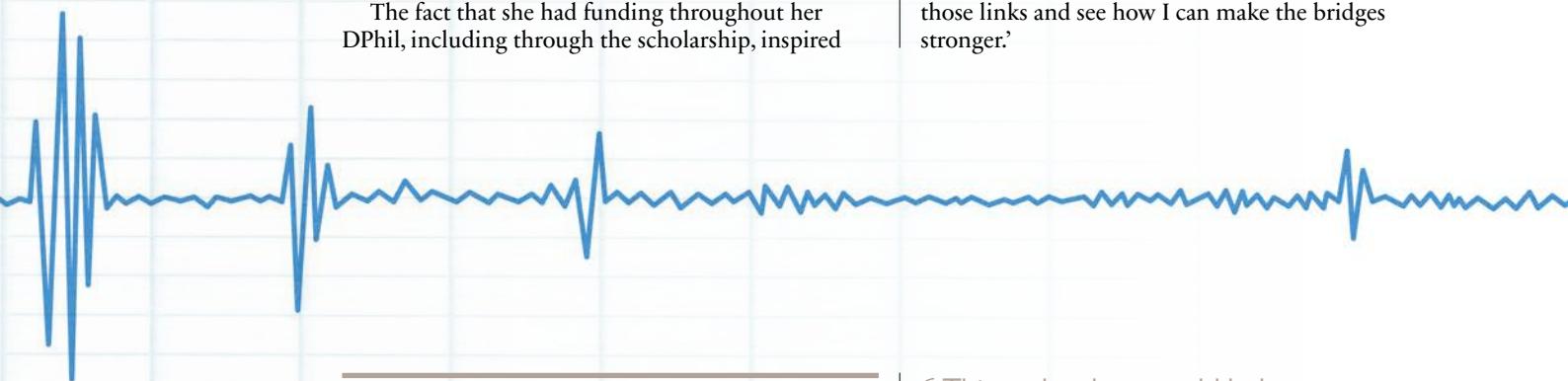
Although Qi was delighted with the outcome, her research has not been without its challenges. Not only was the historic data that she needed difficult to find ('it's depreciating, dying'), Qi was reliant on geologists in 13 different countries to dig it out of archives for her. They would then need to locate scanners large enough to accept the original paper records, with the resulting high-resolution files requiring digitisation, correction and analysis by Qi.

The fact that she had funding throughout her DPhil, including through the scholarship, inspired

Qi to pursue this type of work. 'I felt very supported,' she explains, 'and that support meant that I took on what interested me, rather than what I knew would be productive. It led to some bolder decisions and enabled me to venture into fields that are not traditionally the forte of my group.'

Alongside her doctoral research, Qi also spent time remotely volunteering for the Zhuoming Disaster Information Service, an NGO based in China. Although traditionally focused on natural hazards, this year the organisation responded to the coronavirus pandemic, with Qi leading a team dedicated to modelling future PPE demand and peaks in medical need.

Through both experiences Qi has 'observed the ways that change can be made, resilience can be built and hazard preparedness improved' – something she wishes to continue exploring upon the conclusion of her studies this year. 'There are a lot of neighbouring fields that I could connect with in the future,' she notes, 'so I'm trying to find those links and see how I can make the bridges stronger.'



Harnessing the healthcare potential of flexible electronics

Kai Zhang, DPhil Materials

In recent years diabetes has become a significant global public health issue, with an estimated 422 million people worldwide living with the condition. Occurring either when the body does not produce enough insulin or when it cannot effectively use the insulin it does produce, it is vital that people with diabetes manage their blood glucose levels to remain well.

It is this process that doctoral student Kai Zhang has been targeting since coming to Oxford in 2016. Alongside colleagues in the Polymers Group, Kai has been developing a flexible sensor that will enable chemical concentrations in body fluid – for example glucose levels in sweat – to be monitored in real time and communicated to a mobile phone or smart watch. 'It will help patients with chronic conditions get on with their lives,' explains Kai.

Although some commercial prototypes of this technology do already exist, Kai's doctoral research has focused on developing a method that will enable its mass production. 'The current prototype is very expensive so it just stays in the lab,' he says. 'What I'm trying to do is to extend this technique on the industrial level and solve some of the different issues that go along with that.'

One of Kai's greatest achievements since joining the University has been to develop a small-scale signal amplifier – a very important part in the flexible sensing system. His ability to focus on this complex

● This technology could help someone with an urgent condition get help immediately ●

Kai Zhang

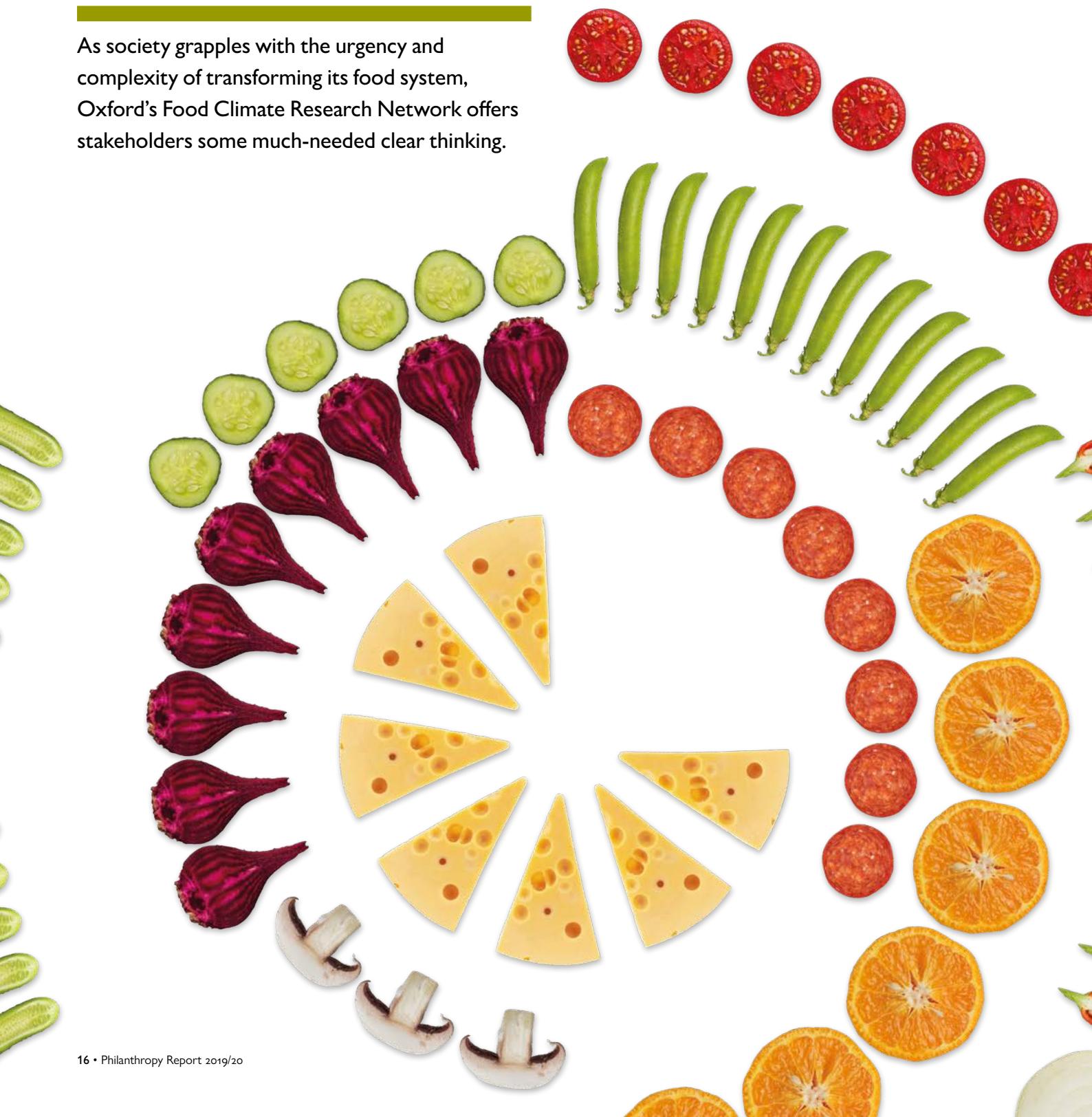


work has been enhanced, he says, by having a scholarship: 'It has been very helpful because I haven't worried at all about money. I have been able to focus 100% on my research.'

The scholarship programme has been generously supported by Chris Gradel and PAG, an Asia-focused investment management firm. The programme provides support for doctoral students within the Mathematical, Physical and Life Sciences Division and the Social Sciences Division (excluding Archaeology).

The future of food

As society grapples with the urgency and complexity of transforming its food system, Oxford's Food Climate Research Network offers stakeholders some much-needed clear thinking.





'If you take the fact that food uses about 40% of the Earth's land then there are huge implications for deforestation and biodiversity loss,' says Dr Tara Garnett, leader of the Food Climate Research Network (FCRN). 'It also uses 70% of our irrigation water; it contributes nearly 30% of global greenhouse gas emissions; and we have on the one hand 2 billion people worldwide who suffer from the problems of overconsumption, and on the other about 800 million who don't get enough to eat.'

When Dr Garnett established the FCRN in 2005, the idea that food had such a wide-ranging impact was not well known. 'The focus of concern when it came to food sustainability at that time was food miles and transport,' she explains. 'But gradually over the years we've come to recognise that the food system contributes hugely to a range of social and environmental problems, and that it also has an important part to play in a solution for a more sustainable future as well.'

By conducting, synthesising and communicating research at the intersection of food, climate and broader sustainability issues, the network has played a key role in helping to shift this perspective and shape the wider food systems agenda. It has a particular focus on animal production and consumption, an area where many different issues converge. 'There's the animal welfare story as well as the cultural value of meat,' says Dr Garnett. 'You have to look at it all together.'

Over the past 16 years the FCRN has published a number of milestone reports on emerging or controversial issues of concern. Through its recent Planting Up Progress project, for example, the network looked at the extent to which existing metrics can effectively assess the food industry's progress in delivering sustainable and healthy diets.

● I have quite strong opinions but there are plenty of people with strong opinions. My role is to step back and act as a critical friend ●

Dr Tara Garnett

Its findings were not overly positive. 'We came to the conclusion that the metrics out there are either missing, or where there are metrics, the food industry is not using them or performing very badly against them,' Dr Garnett explains. 'We need a way of holding the industry and its investors to account.'

In recent years the network has also explored scenarios for achieving a 70% cut in food-related greenhouse gas emissions, considered effective ways of shifting people's consumption patterns, and tackled issues around soil carbon sequestration – something that Dr Garnett describes as 'a very live topic' when it comes to discussing nature-based solutions to climate change. Whatever the focus of its work, however, the FCRN leaves advocacy to others, seeking instead to provide decision makers with the critical thinking they need in order to take effective action on food system sustainability.

The freedom that the network has had to pursue topics such as these, as well as interact in the way it does with the food systems community, has been the direct result of support received from the Daniel



● We wouldn't exist without the foundation's support. It's as simple as that ●

Dr Tara Garnett

and Nina Carasso Foundation. 'It's been absolutely invaluable,' says Dr Garnett. 'The foundation has given us space to do ideas exploration and knowledge translation, which I think is so important if research is going to have impact.'

The network currently has more than 3,000 members from across the food systems community, but has ambitions to grow further. Later this year it will morph into Table, a new collaboration between Oxford, Wageningen University and Research in the Netherlands and the Swedish University of Agricultural Sciences. Table will act as a platform to explore the underlying values, beliefs and assumptions that people bring to discussions about food – the goal being to identify points of consensus as well as areas where further research is needed to resolve disagreements.

'Food is very politicised and polarised,' says Dr Garnett. 'We have these big campaigning organisations that say the food system should go in this or that direction. We've seen it with COVID-19. Some people are saying that food systems need to re-localise, others are saying that global food systems work because there's food in the shops. What we want to do is explore why polarisation like this exists, and how it relates to the beliefs that people have about how the world works, how humans work, the role of technology and so forth.'

Acknowledging the complexity of the debate, Dr Garnett sees her role first and foremost as a critical friend. 'Yes, the world is very, very complicated and to an extent there's always a danger of making it even more complicated,' she says. 'Our job is to help people navigate the options, understand what assumptions they're bringing to the debate, and offer some helpful clear thinking.'

The FCRN is part of the Environmental Change Institute's Food Systems Group and the Oxford Martin Programme on the Future of Food. The network is currently fundraising to enable its transition to Table and ensure it can move forward on a firm financial footing.

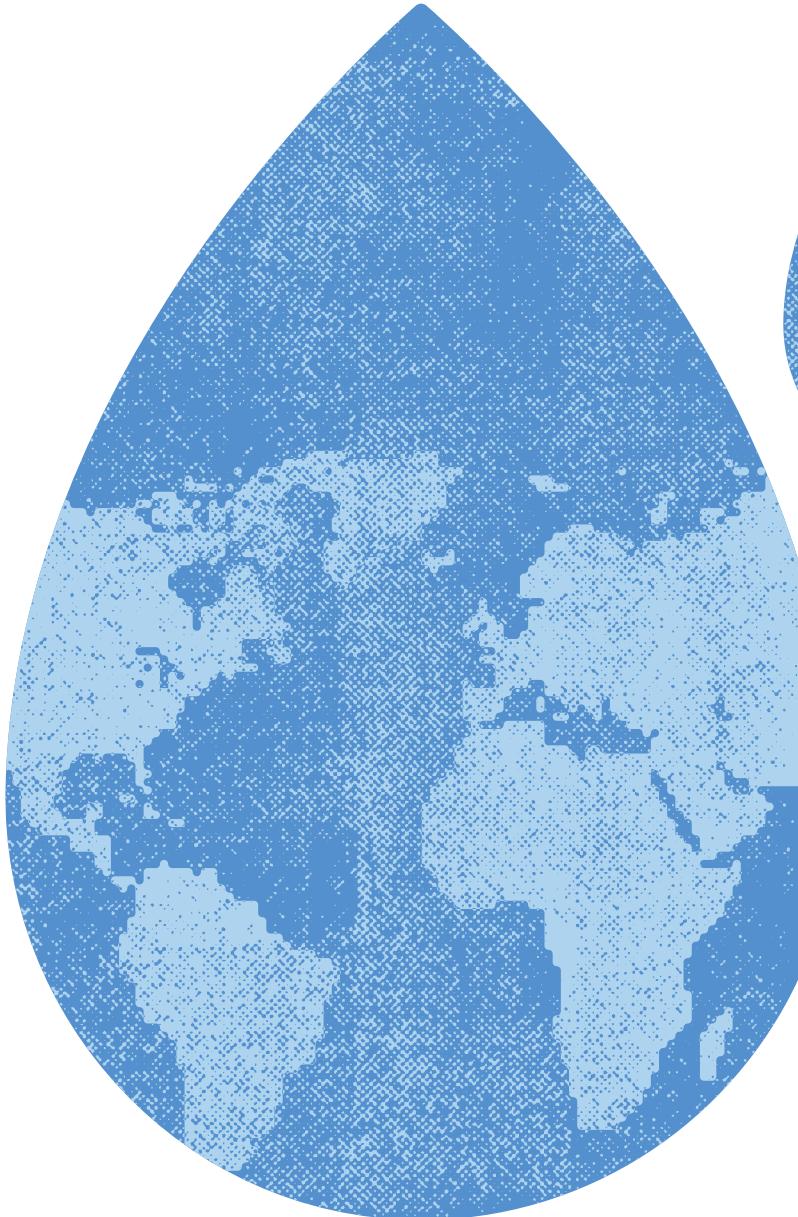
Claire Nakabugo, Swarovski Foundation Scholar and MSc Water Science, Policy and Management graduate, is contributing to local, national and international conversations about sustainable water management.

Growing up in Uganda, Claire Nakabugo witnessed first-hand the challenges of water management: in the wet season, the devastation wrought by landslides, damaged infrastructure and flash floods in the cities; in the dry season, the destruction of livelihoods dependent on subsistence agriculture and the resulting famine.

After completing her undergraduate degree in agricultural engineering, she worked for a year helping to reduce the impact of flash floods in the city of Kampala. Claire says: 'I looked at how to increase drainage efficiency through quantifying sediment accumulation, which limits the ability to transport storm water outside the city. I soon found that I wanted to acquire greater knowledge to manage such challenges.'

It was at this point that Claire identified the MSc in Water Science, Policy and Management at Oxford as the course to pursue. Daunted at first, Claire says: 'No-one I knew had ever studied at Oxford. It felt like very high ground to break because there was no example. But I did it.'

Claire needed funding to be able to take up her place on the course and, just as she was losing hope, was offered a full scholarship from the Swarovski Foundation. 'That news came when I was really downcast, and it was one of the best things that



Providing sustainable water solutions



happened to me,' Claire says. 'I didn't have another source of funding from Uganda but, with the course fees and living expenses covered, I didn't have to worry about taking up another job. It truly gave me the peace of mind to focus on my studies and give it my best.'

She continues: 'It's actually the most intense thing I have ever had to do. My experience at Oxford was both cultural and educational. It stretched my knowledge so broadly, starting with my classmates: they were lawyers, social scientists, political scientists, doctors, and some were in the public health field. They were asking questions that I would never think of, given my engineering background. That was so enlightening for me. The whole experience really developed the skills I needed to work in an international environment.'

The master's degree was key to Claire achieving her next position as an intern at the International Hydropower Association (IHA), a policy-oriented organisation for renewable energy and a consultancy for water management and hydropower development across the world. Claire says: 'My internship required strong communication skills to write and deliver information in a way that was easily understandable by the public. The course at Oxford was very interactive and these were skills that I developed there.'

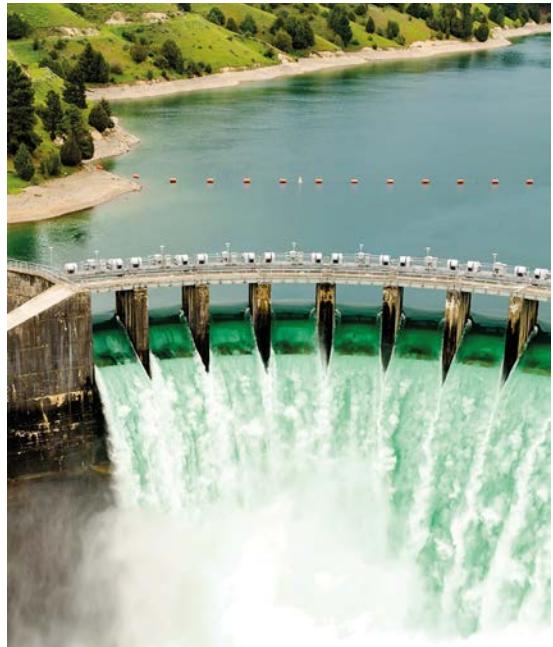
'In fact, the scholarship has really transformed my career direction. I'm now looking at roles that are more critical for decision-making or that cut across broader spectrums in international development. During my internship I represented my organisation in a bilateral meeting with the African Development Bank and presented to 20 senior staff. This is something I couldn't have done before completing the master's.'

Claire is now devising a project for an area in western Uganda where a river often bursts its

Right: A hydro-electric dam spilling water

banks, looking at it not only from an engineering perspective but also from a social and economic one. She continues to work as a consultant for IHA, contributing to policy adaptation and implementation. This important work includes disseminating good practice for sediment management in hydropower dams and reservoirs, because maintaining river health and sustaining the life cycle of infrastructure is crucial for the continued provision of water storage, flood control and electricity generation.

A multidisciplinary approach is the only way forward. Claire explains: 'Water is at the intersection of so many sectors – food, health, energy and beyond – that it has a societal impact, a psychological impact,



● I'm really grateful to the Swarovski Foundation because so many students may have the ability, but not all of us have equal opportunities ●

Claire Nakabugo



● I have expanded my area of influence, knowledge, skill and confidence, to answer more questions and provide solutions to a range of challenging issues on a broader scale ●

Claire Nakabugo

and an impact on health issues and political issues. When it comes to policy intervention, transboundary action and cooperation, there are so many actors that come into play. You cannot manage water exclusively, separate from the society that depends on it.'

Claire is inspired by the mission of the Swarovski Foundation to support culture and creativity, promote human empowerment and preserve the environment, and feels privileged to have the opportunity to contribute to solutions – not only through her work. 'The principles behind the Swarovski Foundation are deeply motivational,' she says. 'It was set up by Nadja Swarovski to honour the philanthropic spirit of Daniel Swarovski, the founder of the Swarovski crystal business. He stressed that to be successful, you must not only think of yourself but also of other people. The Swarovski Foundation has created opportunities for so many through its success. I was given an opportunity, which has inspired me to extend this to others in any way I can.'

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