

EMMANUEL 2024 REVIEW



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VIEW FROM THE LODGE

WE HAVE ALWAYS BEEN A PLACE THAT BELIEVES THAT TALENT, REGARDLESS OF BACKGROUND, CAN FLOURISH IF PROVIDED WITH THE RIGHT EDUCATIONAL OPPORTUNITY

This article marks the end of my third academic year as your Master. Which means that I matriculated at the same time as most of those who graduated this year. It was a privilege to play a minor part in the journey of a cohort that didn't really have a sixth form because of the pandemic. Their results bear testament to the proven combination of engaged student, Director of Studies and Tutor. Conversations with our finalists over the last term have given me confidence that we have also done a good job in preparing them for the next chapter in their lives. Combined, these observations confirm to me that our particularly personal approach is right.

But, after three years, I also know that it's an approach that can't be taken for granted. Ensuring that our students, Directors of Studies and Tutors are engaged takes energy and patience. We must continue to ensure that our community's culture enables that engagement and with it the confidence to develop through exploration and challenge.

Last year the Governing Body endorsed a refreshed narrative called Emma Evolves. It recognises that we have always been a place that believes that talent, regardless of background, can flourish if provided with the right educational opportunity. And that diverse communities, brought together through personal engagement and dialogue, can enable people to do their best work. It also confirms that the size and shape of our community is about right, as it supports a personal approach while setting the right conditions for meaningful interdisciplinary and intergenerational exchanges. It further acknowledges that our location, nestled between the bus station and Parker's Piece, is within easy cycling distance of most university sites. This central location, coupled with the layout of our place, and the paradox of the formality of Front Court and the soft-edged Paddock with its irregularity and informality, sets the stage perfectly for our focused but particularly personal and relatively informal approach to education and research.

But it concedes that the world is changing, and that we must evolve if we are to continue to add value through education, learning and research, going forward.

To guide us the narrative is woven around three big ambitions. The first is centred around the individual journey. We will pursue it by progressing our reputation for accessibility, inclusion, support and academic excellence. This is our priority. Our centre of gravity, if you will. The second is about increasing the frequency of collaborations that foster the generation of new knowledge. We will achieve this by creating more opportunities for the interdisciplinary connections that already occur within our academically diverse community. The third is to optimise all our facilities for the future world. We will advance this ambition by ensuring that we maximise the availability of our spaces and ensure that the technical tools required for collaborative and global research are on hand, while being an exemplar in improving the sustainability of our estate for those who follow us.

This narrative will guide the development of our college over the next decade at least. And many of you will recognise that it builds on the themes of Emma Enables. That is no accident, as I am a firm believer in continuity of approach. It just needed a tweak as we begin the next chapter of our history.

The articles that follow will give you a feel for the Emma Evolves ambitions along with an insight into the experience of our staff, students and post-docs. They are incredible.

As you know from your personal lives and national media, all of this takes place against the growing tension between costs and income. Catherine Webb, our Bursar, has spent the last year carefully putting in place a series of structural and process changes to help us navigate this tension. Her article later in the *Review* describes some of them. Our ambitions and this fiscal context highlight that philanthropy remains as important today as it ever has been. And in this regard, as the final pages of this year's *Review* show, we are blessed, as our friends and supporters make our ambitions realistic.

Finally, as many of you know, we lost Professor Robert Henderson, our previous Senior Tutor, at the end of 2023. Far too early. As I re-read the above, I realise how much he did to shape both the college and my own thinking during his time with us. I can still hear his patient voice. But I also know that Dr Corinna Russell is the right Senior Tutor for the next chapter in our history. She cares deeply.

Doug Chalmers, Master

EMMA ACCESS & OUTREACH

FRANCESCA MANN, OUTREACH & WIDENING PARTICIPATION COORDINATOR
TOM MCGACHIE, SCHOOLS LIAISON OFFICER

September 2023 marked the beginning of one of the most energetic years to date for Emmanuel's access and outreach work: thanks to the excellent fundraising done as part of Emma Enables, we created a two-person team comprising a new Outreach & Widening Participation Coordinator alongside the Schools Liaison Officer. This has enabled us not only to increase the number of students reached, but also to develop new multi-intervention initiatives that aim to work consistently with select groups of highly able students from widening participation* backgrounds.

THANKS TO THE EXCELLENT FUNDRAISING DONE AS PART OF EMMA ENABLES, WE CREATED A TWO-PERSON TEAM COMPRISING A NEW OUTREACH & WIDENING PARTICIPATION COORDINATOR ALONGSIDE THE SCHOOLS LIAISON OFFICER

WORKING WITH OUR LINK AREA SCHOOLS

The volume of school requests to visit Emmanuel have remained high this year, and so we have trialled a new multi-school model whereby schools are grouped together and invited to Emmanuel for year-group specific 'taster days', fostering a culture of information-sharing amongst our schools. As a result, between November and April we have been

able to welcome 22 schools and over 700 students to the college, which is nearly 40 per cent more students than in 2022-23, but across fewer dates.

A strength of Emmanuel's outreach work is our commitment to visiting personally our schools in Essex and Sheffield to develop our relationship with teachers and local communities. In September, a team of undergraduate 'EMMbassadors' travelled with us to 23 schools, sharing insights into student life at Emmanuel and myth-busting about Cambridge. In March we organised our biggest schools tour to date, visiting over 2000 students across 24 schools, with a focus on building a sustained relationship with groups of highly able students at our top priority schools. For example, having met the headteacher of Fir Vale School in Sheffield last year, 17 Year-10 students were selected to participate in our session about the importance of A-Level subject choices for different higher education courses; a teacher reported that '[Francesca and Tom] really got on the students' level and have already had an impact inspiring them about university'. This group of Year 10s visited Cambridge in July for a day of aspiration-raising activities.

LINK AREA PROGRAMME

This year, recommendations from the Office for Students have emphasised the need for universities to support attainment- and

aspiration-raising work in schools. Therefore, we have begun developing more subject-specific programmes to support the development of students' academic skill sets, to help them to make a competitive university application. A key example is our Link Area Programme: across six weeks, 25 Year-12 students from Sheffield and Essex accessed a series of exclusive online lectures curated by Emmanuel Fellows, completed an essay and supervision on a subject area of their choice, and had weekly mentoring sessions with EMMbassadors. These students and their guardians were then invited to a celebration day at Emmanuel, which was attended by the Master, Senior Tutor, Fellows and EMMbassadors, with Emmanuel's welcoming and collaborative community in full swing.

We are excited that the Link Area Programme is planned to develop into Emmanuel's first in-house outreach residential in 2025, which will provide a more sustained and immersive experience of Emmanuel life for future Year-12 participants. This residential programme would not have been possible without the generosity of Emma members.

LANGEVITY

This year we launched an ambitious new outreach programme, 'Langevity', in response to growing university-wide concerns about the dwindling numbers of applicants to language courses, which reflects a worrying trend in the

*Widening participation criteria are listed at www.emma.cam.ac.uk/admissions/access/schools



fall in learning languages in UK schools. It was extremely positive therefore that, despite this challenging landscape, over 300 students from across the country applied for a place on the programme, which is designed to introduce students from Years 10, 11 and 12 to a range of languages and language-oriented courses here at Cambridge. From Spanish and Japanese to Biblical Hebrew and New Testament Greek, Emmanuel's Fellows and postgraduate researchers have come together to deliver crash courses in their respective disciplines.

This joining of forces has already proved to be such a success that other colleges and the Faculty of Modern and Medieval Languages have enquired about collaborating on an expanded version of the programme for 2025. Furthermore, following a generous donation from Emmanuel members, we are thrilled to be offering a fully funded in-person visit day

to 40 of the 300 applicants, who have been selected based on academic merit and widening participation criteria.

@EMMANUELCOLLEGEOUTREACH

To help to engage with groups of talented young people on multiple occasions across their school career, in February we launched @emmanuelcollegeoutreach, a new Instagram account to share content about college life and promote our outreach programmes. Content ranges from tours of college rooms to course insights, and would not be possible without the willingness of our EMMbassadors and Fellows to feature in our posts.

LOOKING AHEAD

By May 2024, the Emmanuel outreach team had worked this year with over 6000 students from nearly 400 different schools. Our goal for the next academic year is to expand initiatives such as the Link Area Programme and Langevity into schemes with residential components. Although they are more resource-intensive, residential programmes are shown to be one of the outreach interventions with the most impact in terms of raising aspirations among young people. By opening our doors to such programmes, we will continue to promote Emmanuel as an inclusive and accessible university environment.

BY MAY 2024, THE EMMANUEL OUTREACH TEAM
HAD WORKED THIS YEAR WITH OVER 6000
STUDENTS FROM NEARLY 400 DIFFERENT SCHOOLS

My journey at Emmanuel began in September 2020 in the depths of the Covid-19 pandemic. My staircase seemed to be very unlucky, with my peers returning positive test after positive test. Suddenly, over Christmas, I became very breathless and was sent to A&E, which was the start of months of medical care. I was eventually diagnosed with long Covid and began a long road to recovery; one that, alas, was not compatible with studying and led me to intermit. During this time, I was very grateful for the regular check-ins from my Tutor and my thoughtful Director of Studies, who invited me back to events when the new medics started so that I could easily integrate into my new year group once I returned.

In January 2022, I returned to college and my studies. Life was still far from 'back to normal', however, as I found it difficult to walk for more than ten minutes at a time. Slowly but surely I began to build up my fitness and got stuck into college life. I joined Emma Chorus and attended evening yoga in the chapel to help rebuild my strength.

MUSIC IS MY PASSION AND I WAS DELIGHTED I COULD FINALLY JOIN BIG BAND, WHICH IS THE HIGHLIGHT OF MY WEEK!

I am now finishing my third year and finally back to full health. Fit again, I decided to try out rowing (and soon stopped as I realised the 6am alarm was not for me!) and picked up my saxophone again, after two years when I had been too breathless to play. Music is my passion and I was delighted I could finally join Big Band, which is the highlight of my week! I also love getting involved in access work as I am very grateful for the outreach events I attended during my sixth form. I am currently setting up a mentoring scheme, generously funded by the college, for students thinking about applying to read medicine.

I hope to become a paediatrician, as I love working with children. Last summer, I worked in a paediatric intensive care unit with my Director of Studies, Dr Inwald, which I loved. This summer, I am presenting my Part II research at an international conference in the Netherlands and I hope to publish it next year. But most importantly, and what I'm most excited about, is that it's finally time to buy my stethoscope!

I AM VERY GRATEFUL FOR THE OUTREACH EVENTS I ATTENDED DURING MY SIXTH FORM. I AM CURRENTLY SETTING UP A MENTORING SCHEME, GENEROUSLY FUNDED BY THE COLLEGE, FOR STUDENTS THINKING ABOUT APPLYING TO READ MEDICINE

YASMIN HORNSBY (2020)
UNDERGRADUATE,
MEDICAL SCIENCES

MUSIC IS MEDICINE





SISTER ACT

SOPHIE O'KEEFFE (2020) UNDERGRADUATE, ENGINEERING
ELLIE O'KEEFFE (2018) POSTGRADUATE, MEDICINE

Ellie and I are sisters both studying at Emma, reading medicine and engineering. Although we are two years apart, we are both graduating this year! Outside our studies, we have been very involved in the sporting life at Cambridge.

We grew up doing almost every sport we could at school, but at university we had to whittle it down just to swimming. It was hard to juggle the academic workload of Cambridge whilst training 16 hours a week and competing every weekend, but we found it a valuable outlet.

We really got involved in the life of the club. We both picked up committee roles and saw Cambridge University Swimming & Water Polo Club captained by an O'Keeffe for three consecutive years. Together as president and captain, we lead our women's Blues to our first Varsity victory in 12 years!

We have both struggled with the high-pressure environment of racing, but having a sister in the same sport meant we always had that

person that really gets it. Having each other was a source of support and motivation, helping us go much further than we ever thought we could when we were younger, from university records to Commonwealth trials and, for Sophie, two national medals!

The transition from swimming to rugby does not seem obvious but it has been very rewarding. We love a challenge, and starting rugby as a complete beginner and trying to improve enough to make the Blues Varsity team has been a great one. There was much to learn, both physically and mentally, but the fantastic support at Cambridge University Rugby Union Football Club has got us there.

Ellie started rugby the year before I did. My first match was the Jaguars Varsity in 2023, where I was asked to fill in after having never been to training! The week before the match, Ellie taught me the rules of the game and how to tackle, and I have been hooked ever since.

We've shared the highs of our Varsity win at StoneX after a nerve-wrackingly tight game, with the heart-dropping moment of seeing the other get injured, as Ellie did in my very first game! Whilst swimming is an individual sport, rugby has been a chance to play together on the same team.

We have been lucky to receive help from both the Emmanuel Windsor Fund and the Hawks Charitable Trust to allow us to pursue our sporting passions.

WE HAVE BEEN LUCKY TO RECEIVE HELP FROM BOTH THE EMMANUEL WINDSOR FUND AND THE HAWKS CHARITABLE TRUST TO ALLOW US TO PURSUE OUR SPORTING PASSIONS

As sisters doing so many similar things, we were always going to be either the best of friends or the worst of enemies. We are lucky that it's the former because it has let us share the most incredible experiences.

HOSPITALITY & HOSTILITY

THE LAND OF A HUNDRED THOUSAND WELCOMES

LUCY MARTIN (2021) UNDERGRADUATE, GEOGRAPHY



AS A TIME-SPACE PHENOMENON, MIGRATION IS QUINTESSENTIALLY GEOGRAPHICAL, AND I APPLIED THE RESEARCH AND ANALYTICAL SKILLS I HAVE DEVELOPED THROUGHOUT MY GEOGRAPHY DEGREE TO ADDRESS THIS IMPORTANT REAL-WORLD ISSUE

Ireland's long-standing reputation as a welcoming country is being tested by current unprecedented immigration pressures. It is a fascinating place to think about migration: legacies of colonialism have made the country an 'emigrant nursery' for centuries, and only relatively recently has the country transitioned to net-immigration status.

My grandfather emigrated to London in 1960, leaving County Donegal to seek employment, and my dissertation focused on how rural communities in this traditionally 'Forgotten County' are today hosting the highest concentration of refugees and asylum seekers in the country. I pursued the nuances inherent in the cultural politics surrounding immigration,

using Donegal as a case study to consider the complex interplay of factors that influence the tension between hospitality and hostility in host communities.

As a time-space phenomenon, migration is quintessentially geographical, and I applied the research and analytical skills I have developed throughout my geography degree to address this important real-world issue. I conducted opinion surveys, focus groups and interviews with stakeholders, including politicians, activists, community workers, refugees and asylum-seekers. My analysis examined the relationship between legacies of austerity and concerns about immigration; I explored how public service pressures are affecting capacities to cope and how place-based disadvantage is linked to political discontent. The findings shed light on the need to provide platforms for nuanced discussions and debates amid increasing global mobility, and demonstrate the fundamental importance of effective communication between national government and local communities.

Despite media reports highlighting a rising 'far right' in Ireland, my research revealed predominantly positive responses from the community. However, the scale and pace of change is applying significant pressure, and if structural issues such as the housing crisis remain under-addressed then the fields of Donegal will provide fertile ground for resentment to grow.

This project was a formative experience for me, igniting a passion for uncovering stories and for untangling the contradictions and complexities that make up our world. My grandfather died just a few weeks before I completed my dissertation, but his strength and wisdom continue to inspire me, and I dedicated the work to him. Life's journey led him to England, but in many ways he never left Donegal behind. I know that any steps I take after leaving Emma this summer will never entirely separate me from this wonderful community. I hope to follow a path that enables me to play a part in working to resolve issues of pressing global concern, and I would love to carry out further research at some stage.

SMALL WONDERS

ANDREW YANG (2020) UNDERGRADUATE, MATHEMATICS

In 2023, I had the wonderful opportunity to attend the SMALL undergraduate research project at Williams College, Massachusetts. I spent the summer investigating subjects ranging from Fibonacci numbers to baseball analytics, co-authored four papers, and made memories and friendships that I will treasure for life, thanks to generous funding by Emma's Herchel Smith Fund.

Williams College is the heart of Williamstown, a small town in the Berkshires surrounded by beautiful highlands. A bustling student town during term, it becomes a peaceful place to spend a summer. We enjoyed having the music rooms and tennis courts to ourselves and made regular use of them.

The community at SMALL is tight-knit. We all lived in together and bonded over day trips and games nights. Highlights included driving nearly an hour to the nearest cinema showing *Oppenheimer*, and the Fourth of July parade and fireworks. I also enjoyed organising sporting competitions against physics students, while fellow Emma student Kishan helped design t-shirts for us all.

Out of the 30-or-so students on the programme, only Kishan and I were from the UK. We're possibly the first British students ever to attend, 35 years after SMALL started, but we will not be the last as Emma is funding another student to attend in 2024.

It reminds me of the importance of the community among mathematicians at Emma and our routine of Thursday afternoon biscuits. I have also been fortunate to lead Emma badminton club over the last three of my four years here. Many different faces have come in and out of the club during that time, and many friendships have developed.

As I graduate, Emma badminton will be in safe hands. I am excited that the partnership between Emma and Williams College is now two-way, as for many years we have welcomed their students here as postgraduates. I wish the Emma student attending SMALL 2024 every success and fun.

AS I GRADUATE, EMMA BADMINTON WILL BE IN SAFE HANDS. I AM EXCITED THAT THE PARTNERSHIP BETWEEN EMMA AND WILLIAMS COLLEGE IS NOW TWO-WAY





TAMING TIGERS

NIKITA SUSHENTSEV, RESEARCH FELLOW

One in six men will be diagnosed with prostate cancer in their lifetime, yet only a small fraction will face a lethal outcome. Over 20 years ago, this paradox prompted UK surgeons to initiate ProtecT, one of the boldest clinical trials in history. One thousand, six hundred and forty-three men with localised prostate cancer and a life expectancy of at least ten years were randomly assigned to surgery, radiotherapy, or active monitoring. Fifteen years later, the results were striking: only 45 men (2.7 per cent) had died from prostate cancer, with no significant differences between the treatment groups.

These findings can be distilled into two key points. Most men with localised prostate cancer can live long lives without receiving debilitating treatment. Yet a small group of men with aggressive, undetected disease could not be cured, however early they were treated. Understanding which prostate cancers are lethal and how to spot them early enough to give these men hope of a cure is therefore a key research question in the field.

This is where my research steps in, with its aim once aptly described by *The Sunday Times* as 'distinguishing tigers from pussycats'. How am I hoping to achieve this as an academic radiologist? First, by taking a step back from the grayscale world of MRI and looking at the tumours of ProtecT participants under the microscope. By doing so, we can try to differentiate lesions that metastasised and became incurable from those that remained localised or were effectively treated. Early analysis is promising, with the full results expected by the end of summer. Since half of the

ProtecT biopsies are stored in Oxford, the mutual agreement between Emmanuel and Exeter colleges has been key to enabling me to complete this crucial work as a Visiting Fellow of our sister college.

If our preliminary results are confirmed, will it make a difference to patients? It appears that most 'tigers' from ProtecT come in the shape of sieve-like tumours. In contemporary clinical guidelines, these lesions are considered intermediate-risk, which means that a lot of men with this type of cancer are still offered active surveillance instead of upfront treatment. Demonstrating their increased aggressiveness in a randomised controlled trial such as ProtecT could therefore lead to revisiting the current approach to risk stratification. Practically, as more patients with sieve-like disease would be treated, more patients with other types of intermediate-risk prostate cancer could be more confident about delaying their treatment.

The trouble is that sieve-like disease is notoriously difficult to detect with routinely used diagnostic approaches. In particular MRI, which is now offered to all patients with suspected prostate cancer thanks to revolutionary research done in the UK, can misdiagnose up to one-third of sieve-like lesions. This is because standard MRI is designed to detect all prostate cancers, rather than to separate them into specific subtypes. So how do we know which technique to use?

The rapidly expanding Cambridge Biomedical Campus offers unparalleled opportunities for collaboration between academics, clinicians and industry. In close partnership with researchers from

AstraZeneca, we have identified specific biomarkers of sieve-like disease that can both explain its aggressiveness and also be used for diagnostic purposes. We now have pilot clinical data suggesting that a certain type of PET scan is superior to standard MRI for accurately identifying sieve-like lesions. Over the remainder of my Research Fellowship, I hope to publish these pieces of evidence and put together funding proposals for clinical trials that can prove the ability of new imaging techniques to detect sieve-like disease early and thereby improve the prognosis for patients harbouring it.

FOR CLINICIANS, FULL-TIME RESEARCH IS A LUXURY. THE RESEARCH FELLOWSHIP AT EMMANUEL HAS OFFERED ME A UNIQUE OPPORTUNITY TO FOCUS ON THE WORK THAT I BELIEVE CAN MAKE A REAL CLINICAL AND ACADEMIC IMPACT

For clinicians, full-time research is a luxury. The Research Fellowship at Emmanuel has offered me a unique opportunity to focus on the work that I believe can make a real clinical and academic impact. College life also exposes one to ideas of others, which are a great source of inspiration. I was therefore pleased to be involved in reviving the Thomas Young Club, which is now an after-dinner discussion club in which Fellows and students come together to discuss ideas behind research. After all, as Karl Popper said, we are not students of subjects, but students of problems. And as problems often transcend disciplinary boundaries, solving the grayscale mysteries of MRI sometimes requires a closer look through a microscope.

CONSERVATION EVIDENCE

& CITIZEN SCIENCE

SILVIU PETROVAN, COLLEGE RESEARCH ASSOCIATE

I joined the Department of Zoology in 2016. Since 2021 I have been a senior research associate there, working on research projects and supervising PhD students.

I always wanted to become involved in the collegiate life at Cambridge, but with a young daughter and having to commute, I worried about how much I could offer in terms of student supervisions and other weekly commitments. It was fantastic to discover the research associate scheme at Emmanuel and in 2023 I joined as part of the first-ever cohort. It has proved a wonderful experience in linking with postdoctoral colleagues from other disciplines in a welcoming and inspiring college setting. In the way that it is addressed to postdoctoral researchers this was unparalleled in the university. Half a year later, I am fascinated with the history of Emmanuel College and keen to learn and make the most of this amazing opportunity to meet more staff, students and researchers as well as to find out more about the college.

I work with Professor Bill Sutherland on evidence-based conservation, decision-making in biodiversity conservation and biological risk. In the Conservation Evidence project we use industrial-scale reviews

IN THE CONSERVATION EVIDENCE PROJECT WE USE INDUSTRIAL-SCALE REVIEWS (AND INCREASINGLY THE POWER OF AI) TO FIND, COLLATE AND SUMMARISE THE EVIDENCE FOR BIODIVERSITY CONSERVATION



CITIZEN SCIENCE MANY HANDS MAKE LIGHT WORK

I have a lot of interest in citizen science and novel applications that combine technology and volunteer effort to collect in-depth data and in 2018 I started a hobby project that has since grown and generated very exciting data. I study dorsal pigmentation patterns in the wild population of common frogs in our garden using simple photographs taken with phone cameras. Pigmentation proved unique and stable between years as spots sometimes merged but never disappeared, meaning it can be used successfully for individual recognition, but the total melanin-based pigmented area increased

over time. Exact reasons and the actual morphological changes remain unknown but understanding this might present interesting insights into skin melanoma formation in humans. It also allows collecting complex amphibian demography data in the face of climate change, as one of the striking findings was that our garden frogs are now active throughout winter. Next steps are to combine automation and machine learning to increase the scope of data collection for amphibians and provide in-depth monitoring and evolutionary adaptation data that could assist us in better protecting them.

(and increasingly the power of AI) to find, collate and summarise the evidence for biodiversity conservation and provide this for anyone making relevant decisions, from nature reserves staff, to funders, ecological consultants and government agencies. Together, the climate and biodiversity crises require rapid implementation of the best available evidence, but in conservation this remains a challenge as practitioners often lack access to evidence or the time to find it and incorporate it in their work.

TOGETHER, THE CLIMATE AND BIODIVERSITY CRISES REQUIRE RAPID IMPLEMENTATION OF THE BEST AVAILABLE EVIDENCE BUT IN CONSERVATION THIS REMAINS A CHALLENGE AS PRACTITIONERS OFTEN LACK ACCESS TO EVIDENCE OR THE TIME TO FIND IT AND INCORPORATE IT IN THEIR WORK

I also work in biological risk including preventing diseases of zoonotic origin, but we now have a major piece of work looking at the environmental risks of the global trade in ornamental plants. Few people realise that cut roses from the florist might have been flown refrigerated all the way from Ecuador or Kenya. This multibillion-dollar trade creates important jobs and income in the tropics but also can take substantial land and water resources from growing food, while the rapid logistics and high volumes increase opportunities to introduce a variety of plant pests and pathogens.

I HAVE A LOT OF INTEREST IN CITIZEN SCIENCE AND NOVEL APPLICATIONS THAT COMBINE TECHNOLOGY AND VOLUNTEER EFFORT TO COLLECT IN-DEPTH DATA AND IN 2018 I STARTED A HOBBY PROJECT THAT HAS SINCE GROWN AND GENERATED VERY EXCITING DATA



PATTERN RECOGNITION ALLOWS TRACKING OF INDIVIDUALS OVER TIME. IT HAS HIGHLIGHTED THAT MANY FROGS BECOME DARKER OVER TIME, WITH MELANIN-BASED PIGMENTATION INCREASING, YET THE CAUSES AND MECHANISMS REMAIN UNCLEAR

SILVIU PETROVAN

SONGS IN A SIXTEENTH-CENTURY LIBRARY

KATHERINE EMERY,
COLLEGE RESEARCH ASSOCIATE



WHAT DOES IT MEAN TO USE A MUSICAL SOURCE AS EVIDENCE OF A PAST CULTURE? WHAT RELEVANCE DOES THAT MUSIC HAVE TO RESEARCH AND PERFORMANCE TODAY?

In 1585, Matthew Parker – Elizabeth I's Protestant Archbishop of Canterbury – died, leaving his library to Corpus Christi, his alma mater. Having built his archive from the start of his archiepiscopacy, he gathered books that had survived the ravages of the dissolution of the monasteries 30 years earlier. Parker rejected a large swathe of monastic manuscripts that crossed his path, but his library still became an important archive for medieval printed books, incunabula and manuscripts, with a strong focus on Anglo-Saxon material.

While many studies have explored Parker's interest in pre-Conquest history, I aim to look at another subsection of his library: music. Amongst the Parker Library's collection are important examples of medieval and early modern music, most notably the Winchester Troper, which has been studied extensively by Emmanuel's Professor Susan Rankin. My postdoctoral project – 'Liturgical libraries: a musical history of the Reformation' – explores how and why Parker and other Protestant library-builders preserved medieval Catholic liturgy, even when the items were at odds with the reforms they wished to make to the contemporary church. It highlights how music was seen as representative of history, a past that Parker and his colleagues wanted simultaneously to connect with and challenge through reform. I also explore Parker's musical archive as an example of history-making, as he was forced to grapple with the musical past to create the future.

By concentrating on Parker's building of a liturgical archive, I combine both of my passions: history and music. Although I completed my PhD in music at King's College in 2021, my previous training was in history. Exploring the music of Parker's Library through the prism of collecting, collating and editing has enabled me to find an echo of my own work in the past. What does it mean to use a musical source as evidence of a past culture? What relevance does that music have to research and performance today? And in what ways does it fit into the wider network of musical survivals from the period?

FIT FOR THE FUTURE

FOSTERING ENTERPRISE IN THE COLLEGE COMMUNITY

DYLAN CUSKELLY (2022)
POSTGRADUATE, NANODTC*

The inaugural Emma Enterprise challenge took place in 2023-24, giving students and post-docs an opportunity to learn skills and gain hands-on experience in developing and pitching a business or social enterprise idea.

Members of the college with experience in forming ideas, building teams, marketing and securing finance for start-ups and small businesses gave online tutorials. Twenty-one teams entered; the final six were each assigned an Emma mentor to help them develop and refine their pitch. GreenHarvest, a team of three postgraduate students, including Dylan Cuskelly, took the prize (cash and the Golden Duck Award).

Dylan says:

As global temperatures continue to climb, we are confronted with a paradox: global food demand is projected to soar, driven by a growing world population. At the same time, the capacity of land to produce resources is diminishing. Agricultural companies are expanding and buying more land, often causing further land degradation. Because of these circumstances, the planet loses 100 million hectares of productive land every year. This has put immense pressure on companies, not only to enhance their agricultural output, but also to restore and rehabilitate the land.

At GreenHarvest, our mission is to equip governments with an innovative platform that enables them to address proactively challenges of climate change and food security.

GreenHarvest originated as a project by me, Timothy Lambden (Girton, 2021) and Tara Murphy (Lucy Cavendish, 2022), all NanoDTC PhD students, during a data intensive science (DiSE) programme at the university. We conceived the idea of using satellite imagery to address global challenges like food security and land degradation. When we learned of the Emma Enterprise challenge, we embraced the opportunity, recognising the value of the mentorship opportunities it offered and the tutorials given throughout the year.



DYLAN CUSKELLY (RIGHT) AND TIMOTHY LAMBDEN, TWO-THIRDS OF GREENHARVEST. THE TEAM WAS MENTORED BY JONATHAN CUMMING (1987)

OUR SOLUTION COMBINES SATELLITE IMAGERY WITH ADVANCED ARTIFICIAL INTELLIGENCE AND, IN DOING SO, WE CAN ANALYSE HISTORICAL DATA TO UNDERSTAND PAST LAND USE AND ITS IMPACTS



Our solution combines satellite imagery with advanced artificial intelligence and, in doing so, we can analyse historical data to understand past land use and its impacts.

Our climate modelling tools allow us to forecast the future climate of specific areas, and when paired with satellite imagery, gives us the ability to guide our clients on how to rehabilitate and utilise their current land more effectively. We provide tailored recommendations on which

crops are best suited for both the land's recovery and also for building capacity to sustain local and national food security needs.

We aim to support strategic planning to ensure that we can sustainably meet the needs of future generations without compromising the health of our planet. Emma Enterprise has provided a brilliant platform for us to refine our business model and acted as a springboard for our idea.

BUILDING NEIGHBOURLY RELATIONS

KAYLA FRIEDMAN,
COLLEGE RESEARCH ASSOCIATE

In late 2022, the Cambridge Institute for Sustainability Leadership (CISL) opened the doors of its new headquarters at the Entopia building, an award-winning sustainable retrofit of the old Cambridge telephone exchange at the corner of Regent Street and Park Terrace. Two of CISL's staff, myself and Emre Usenmez, subsequently joined Emmanuel as college research associates, as both CISL and Emmanuel saw potential in building relationships with new neighbours.

A recent collaboration highlights the benefits of these relationships. I am the course director of the MSt Interdisciplinary Design for the Built Environment (IDBE) programme at CISL. This two-year part-time Master's attracts professionals from around the world who want to learn how to work better together to design, deliver and operate more sustainable and resilient places and spaces for our common future. As a part-time course, all the students are working and many also have family commitments. Over the course of their programme, they come to Cambridge for six intensive week-long workshops that make up the core of their contact hours. Each week that they come, the learning modules are applied to a particular aspect of the built environment. In April, 44 students from two cohorts arrived in Cambridge for their third or fifth residential week to learn and engage with the theme of 'heritage environments'.

A key feature of the residential weeks is a practical project where the students form interdisciplinary teams to apply their learning to a project. This year, thanks to the new relationship between CISL and Emmanuel, the students used the college for their practical activity. The IDBE team and I met with the Bursar and estates team to identify six different sites for the students to use as their specific



STUDENTS WERE ASKED TO PREPARE THREE LEVELS OF INTERVENTION THAT WOULD MAKE THEIR ASSIGNED AREA MORE SUSTAINABLE AND RESILIENT. LEVEL 1 WERE QUICK WINS, LEVEL 2 WERE ASPIRATIONAL TARGETS TO MOVE TO A ZERO-CARBON POSITION, AND LEVEL 3 WERE RADICAL INTERVENTIONS

focus areas: the main central estate, the Queen's Building, Emmanuel House, Emmanuel Boathouse, Front Court and New South Court. This gave the students a 400-year span of areas to review. The students were asked to prepare three levels of intervention that would make their assigned area more sustainable and resilient. Level 1 were quick wins, Level 2 were aspirational targets to move to a zero-carbon position, and Level 3 were radical interventions.

The students enthusiastically took to their task, supported by Emmanuel staff during the week. They worked on site from Furness Lodge in the afternoons, which let them experience the college first-hand. They visited their sites on Monday and had an initial brainstorming session and continued information gathering. On Tuesday they started considering the metrics they would be using for assessment: not just energy and carbon but also biodiversity, social value, water, waste and considerations of comfort and usability. Thursday and Friday were spent testing out different proposals and doing cost-benefit calculations to demonstrate the various value propositions of their proposals.

On Saturday, the final day of their residential week, the students presented their results to a panel of Emmanuel Fellows including the Master, the Bursar, Dr Kate Spence, Professor Catherine Rae and Dr Sarah Bendall. One of the themes of the presentation was around data collection and undertaking audits to be able to understand better how the various buildings are currently operating, to help assess the benefits of any interventions. Many quick wins were identified as relatively simple and likely to provide a good return on investment such as implementing better insulation, double glazing, draught-proofing and LED lighting. The students promoted ambitious targets to prepare the college for future climate shocks and to ensure long-term resilience. More ambitious plans suggested replacing gas boilers with ground- or air-source heat pumps, rainwater harvesting, solar tiles,

building management systems and zero waste commitments. The students embraced the social value of the college, and a key part of all presentations was to highlight how much the physical spaces of Emmanuel mean to the students and members and their Cambridge experience. In particular, the group working on the Queen's Building was able to convey a renewed sense of admiration for its forward-thinking design and felt it was an excellent example of tomorrow's heritage today.

The students were delighted to be able to share their professional expertise through their learning programme with Emmanuel. Equally, it was very rewarding for the students to hear from the Master and others how useful the exercise was for them to understand better the site and its opportunities. The student presentations have been given to Emmanuel in the hope that they will help to support future discussions and plans towards a sustainable and resilient estate.

STUDENTS WERE DELIGHTED TO BE ABLE TO SHARE THEIR PROFESSIONAL EXPERTISE THROUGH THEIR LEARNING PROGRAMME WITH EMMANUEL. EQUALLY, IT WAS VERY REWARDING FOR THE STUDENTS TO HEAR FROM THE MASTER AND OTHERS HOW USEFUL THE EXERCISE WAS FOR THEM TO UNDERSTAND BETTER THE SITE AND ITS OPPORTUNITIES





ONE YEAR IN

CATHERINE WEBB, BURSAR

One thing I have learned over my first year at Emmanuel is that there is probably nothing that will make me feel older than welcoming the latest intake of freshers and realising that none of them were born when I was studying here!

That annual reality check aside, it has been an absolute pleasure to be back at Emmanuel, having studied economics here from 1997 to 2000 and then subsequently spending 23 years working in the civil service. My Director of Studies when I studied here was the previous Bursar, Dr Mike Gross, who I am fortunate to count as a friend. I am very grateful to Mike for handing over to me the college in such a good position, and for his support as I have got to grips with my new role.

My first year in post has been a whirlwind as I have got used to the mysterious beast known as the 'College Calendar', and as everyone who works for me has got used to having a new Bursar for the first time in 26 years. It has been a joy to get to know a side of the college that I'm afraid I largely took for granted as a student here and, through the enjoyable interactions I have with staff, Fellows, students and Emma members, to get to know the whole college community.

When I started in post lots of people advised me that I would only start to see how things fitted together once I'd seen a full academic year. That has proved correct, and I am now enjoying starting to do things for the second time with the benefit of greater understanding of the rhythm of college life and lessons learned from the first-time round.

My priorities for my first year have been on properly understanding the college's finances,

WE HAVE BIG NEW EXPENDITURES ON THE HORIZON AS WE START TO CONSIDER THE EXCITING CHALLENGES OF MAKING OUR OLDER BUILDINGS AS SUSTAINABLE AS POSSIBLE AND TO CONSIDER HOW BEST TO REDEVELOP THE AREA TO THE BACK OF PARK TERRACE

ensuring we have the right governance arrangements in place to make decisions in the areas I am responsible for, getting the right management structures in place to ensure that the staff working for me are well supported, and bringing into operation the Young's Court redevelopment.

As you would expect, the college's finances have been a key area of focus for my first year. Emmanuel is very fortunate compared with many other UK universities, and indeed with other Cambridge colleges. But even so, the combination of fees that are fixed in nominal terms, with increased costs, has started to bite on us, and we know we have big new expenditures on the horizon as we start to consider the exciting challenges of making our older buildings as sustainable as possible and to consider how best to redevelop the area to the back of Park Terrace.

The provider of the finance system that the college currently uses has given notice that it is stopping supporting it. This creates an opportunity for us to think again about what information we need in order to budget even more effectively in the future. We also need to have the right culture in place to ensure we are planning as effectively as we can for those new challenges.

To support us in making these big decisions, from Michaelmas term 2024 we will be starting

to bring members from our wider community onto some of our governance committees. I've been hugely grateful for the generous support I've had already from several of them and am sure that bringing external perspectives from an understanding and sympathetic audience will help ensure our decision-making is as robust as possible.

I am also considering the right line management structures to ensure that all of our staff are well supported and that Emmanuel is the best possible place to work. This will mean reducing my line management to eight individuals and bringing in some extra senior resource to take on some of my day-to-day responsibilities and deliver on the Governing Body's understandable desire to create a more resilient structure that will lead us into the future.

It has been a pleasure over the past 12 months to start to see our new buildings brought to life, and our students and Fellows decide how to make best use of these new spaces. As I write, the sun has finally come out in Cambridge, and the college community is anxiously awaiting news on when the swimming pool will open. As I contemplate whether I'll be able to go for a swim in the morning before work, I pinch myself to remind myself how lucky I am to have come back to work in the very special place that is Emmanuel College.

WAYS WE SAY THANK YOU

ALL DONORS

- listed in the *Emmanuel Review*
- invited to an event for donors in years they give, and to occasional garden parties for donors

LOYAL DONOR CIRCLE

Donors giving consistently for ten years

- receive special recognition in the *Emmanuel Review*
- invited to an event for donors in years they give, and to other occasional events

THE FRANKLAND SOCIETY

Those who pledge legacies to Emmanuel

- offered membership of the Frankland Society
- invited to a special annual event
- sent occasional exclusive communications
- invited to other events for donors, and to occasional garden parties for donors

MASTER'S CIRCLE

£10 000 or more received

- offered membership of the Master's Circle
- invited to an annual dinner in college

£50 000+ are invited to:

- the above, plus the annual Gomes lecture and dinner

£100 000+ are invited to:

- the above, plus a Fellows' guest night (May or December)

BENEFACITOR BYE-FELLOWS

£250 000 or more received

- invited to some college events
- may dine at High Table on a number of occasions each year
- listed in the *College Magazine* and *Cambridge University Reporter*
- admitted at a ceremony in the Parlour
- have their names recorded on a board in the Old Library

BENEFACITOR FELLOWS

£1 000 000 or more received

- invited to many college events
- may dine at High Table on several occasions each year
- listed in the *College Magazine* and *Cambridge University Reporter*
- admitted at a ceremony in the Parlour
- have their names recorded on a board in the Old Library

WE HAVE WELCOMED THIS YEAR

Benefactor Fellow

Dr E H Darlington (1991)

Benefactor Bye-Fellow

Dr D J Seddon (1977)

Dr A Whiting (2024)

I OFTEN REFLECT ON MY THREE YEARS AT EMMA. IT WAS A FORMATIVE TIME, OFTEN A DIFFICULT TIME (THE WORK WAS HARD!), BUT ONE I SHALL ALWAYS BE GRATEFUL FOR. I HOPE THAT BY GIVING TO THE COLLEGE OVER THE YEARS I WILL HELP OTHER YOUNG PEOPLE EXPERIENCE WHAT I DID AND RECEIVE AN EDUCATION THAT GIVES BENEFITS, IN MANY WAYS, FOR THE REST OF YOUR LIFE

IAN, 1970: MEMBER OF THE LOYAL DONOR CIRCLE

REGULAR GIVING

Regular giving is the bedrock of our achievements and progress as a college. No gift is too small to make a difference. Knowing we can count on gifts that come in every year enables us to make ambitious plans for the future, and having this support means we can respond quickly to unexpected needs as they arise.

Some of our donors have given £2.50, £5 or £10 every month for more than 20 years. This is an extraordinary commitment, and these donors are in good company: 1099 members and friends currently support us on a regular basis, with gifts of all sizes. A monthly gift of £5, from several supporters, helps across many areas of our work, from relieving student hardship to supporting our access and outreach activities.

THE IMPORTANCE OF REGULAR GIVING COMES TO LIFE DURING OUR ANNUAL TELEPHONE CAMPAIGN. FOR NEARLY THREE DECADES, OUR STUDENTS HAVE BEEN CALLING MEMBERS, UPDATING THEM WITH COLLEGE NEWS AND HIGHLIGHTING WAYS THEY CAN HELP

ANNUAL TELEPHONE CAMPAIGN

The importance of regular giving comes to life during our annual telephone campaign. For nearly three decades, our students have been calling members, updating them with college news and highlighting ways they can help. Members have, in return, shared fond memories from their student days, given our students invaluable life and careers advice, and donated nearly £6 million since 1995. In September 2023, our 11 callers had 412 conversations with members, raising £121 934 to support our fundraising priorities. Thank you to everyone who took the time to speak to them and to those of you who generously made a gift.

LEGACIES

In the past year, we've received £1 384 429 from legacies: 28 per cent of our total philanthropic income.

Many donors remember Emma in their Will to continue their generosity beyond their lifetime, leaving something permanent behind them at an institution they love. Some leave us a cash gift, while others leave a percentage of their estate. However our supporters choose to remember us, and whatever their reasons for doing so, gifts in Wills both large and small make a transformative difference at Emma and have done so since our earliest years. We are hugely grateful to our past legators, who have extended kindness and generosity to help the next generations of the Emma community.



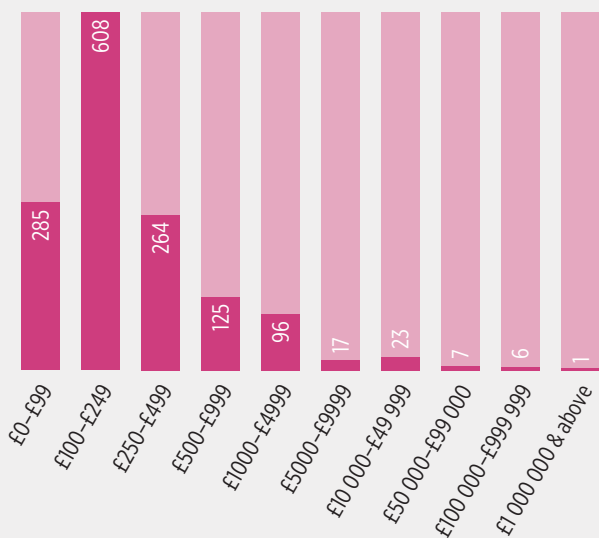
2023 CALLING TEAM

HOLLY FREEBORN

THE YEAR IN NUMBERS

2023-2024

NUMBERS OF GIFTS RECEIVED
90% OF GIFTS WERE UNDER £1000



FUNDS RAISED

£4 849 759

IN ADDITION, WE RECEIVED GIFTS-IN-KIND
VALUED AT £346 714

NUMBER OF DONORS

1581

MEMBERS WHO DONATED

16%

NUMBER GIVING A REGULAR GIFT

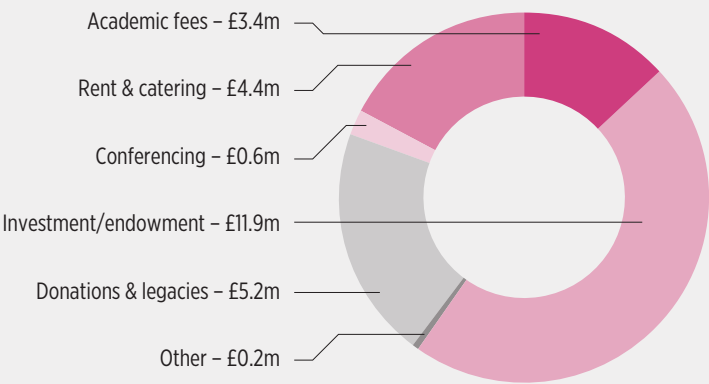
1099

INCOME FROM LEGACIES

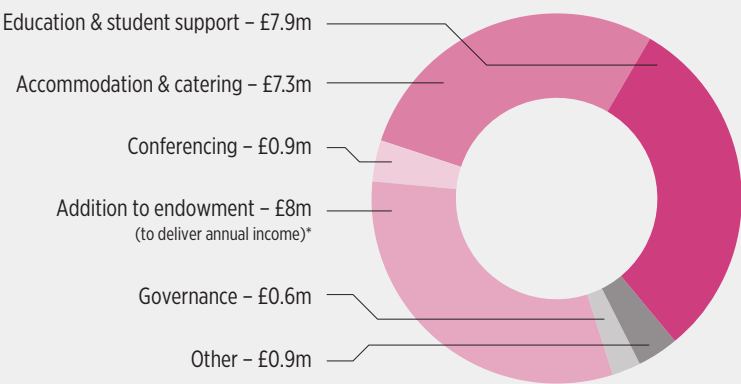
£1 384 429

2022-2023

INCOME
£25.7 MILLION



EXPENDITURE
£25.7 MILLION



SUPPORTING STUDENTS

CAMBRIDGE BURSARY HOLDERS

142

AWARDED IN HARDSHIP-RELATED GRANTS

£158 787

POSTGRADUATES ENABLED
TO COME TO EMMANUEL

21

GIVING AND TAX RAKESH PATEL (1992)

My undergrad years at Emmanuel were significant in providing foundations for many lifelong values and social bonds. The opportunity both to give, and also to re-connect, to college was a direct acknowledgment of this personal importance. That said, I also knew that the gift itself would be directed towards certain areas of interest within the Emmanuel 'offering'.

My family and I are passionate about two related causes, namely, the opportunity to access first-class education, especially in a post-grad setting where funding can be more challenging, and supporting innovation in life sciences. Both areas benefited my wife and me personally, whilst we were at Cambridge but also in our professional careers today.

Through the gifting construct, we were able to work with the Development Office and shape the gift to combine these areas of interest by benefiting the student members at Emmanuel.

Whilst subject to each person's tax detail, donating shares to a registered charity, such as Emmanuel, is a very tax-efficient way to make a gift. For the donor, there is no capital gains charge on the gifted shares, which is important if the shares have been held for a long period, and income tax at your individual rate can be claimed on the full amount donated.



STEPHEN BOND

AS WELL AS HELPING WITH GIFTS OF SHARES, THE DEVELOPMENT OFFICE CAN ALSO ADVISE ON TAX-DEDUCTIBLE GIVING THROUGH, FOR EXAMPLE, GIFT AID, CHARITY CHEQUES, PAYROLL GIVING, LEGACIES AND CHARITY BENEFICIARIES ON DEATH FROM 'ALTERNATIVELY SECURED PENSIONS'



We established the Frankland Society to recognise and celebrate the commitment of those who are leaving a legacy to Emma. In June, we invited Society members for lunch and a panel discussion about the ways the college will need to adapt for the future. It was a wonderful day, with lively and engaging conversations throughout. If you've included the college in your Will, and would like to become a member of the Society, please get in touch with the Development Office.



STEPHEN BOND

MEETING OF THE FRANKLAND SOCIETY IN JUNE 2024

GOOD VIBRATIONS

EMMANUEL SOCIETY

The Emmanuel Society is the college's alumni network and every member of Emma is also a member of the Society. Its role is to keep members connected with each other and the college, and to enable Emma to benefit from its members' wide-ranging experience, talents and expertise.

The Society does this socially, through outings, lectures, dinners, drinks meet-ups, careers events and so forth. It maintains an exciting programme of get-togethers, often drawing from the college's membership to provide experiences that are exclusive to Emma members.

This programme is printed in the *Emmanuel Newsletter*, published three times a year, publicised in the *Emma Connects* email newsletter, and on the college website. You are warmly invited to join events that interest you, and the Society encourages and welcomes suggestions and proposals for future events from all members.

In the past year, the Emmanuel Society hosted a walking tour of Sir Christopher Wren's finest London churches with architectural historian Janet Gough (1980); a dinner for those who read, or converted to, law, at the magnificent Cutlers' Hall; a dinner with the Master in Liverpool; a series of webinars focused on entrepreneurship; a curator's tour of Apsley House; and a guided visit to Cambridge's Institute of Astronomy with Paul Fellows (1982).

In April, members were treated to a behind-the-scenes look at the Orchestra of the Age of Enlightenment's rehearsal of Mendelssohn's symphonies nos 3 and 5 at the Queen Elizabeth Hall with Harry Hickmore (2011), before settling down to enjoy the performance. The photographs on this page and the next are from this event.



THE EMMANUEL SOCIETY ... ENABLES MEMBERS TO KEEP IN TOUCH WITH COLLEGE GOINGS-ON, CATCH UP WITH OLD FRIENDS AND MEET NEW PEOPLE FROM THE EMMA COMMUNITY



EMMA'S ... 10 000-STRONG GLOBAL COMMUNITY
PLAYS A CRUCIAL ROLE IN THE LIFE OF THE COLLEGE



HARRY IS DIRECTOR OF DEVELOPMENT AT THE
ORCHESTRA OF THE AGE OF ENLIGHTENMENT

**Harry Hickmore (2011) has
been appointed chairman of
the Emmanuel Society**

On his appointment, Harry said:
'Emma's lasting appeal is why I am so
thrilled to become the chairman of the
Emmanuel Society. Its 10 000-strong
global community plays a crucial role in
the life of the college and its dedicated
committee members have, since the
Society was founded decades ago,
provided a year-round programme
of events around the world that
enables members to keep in touch
with college goings-on, catch up with
old friends and meet new people from
the Emma community. Since graduating
- some years ago now! - I have been
constantly impressed by how the
college constantly evolves. As it does,
so too does the Society. I'm interested
to hear from members about what they
may like the Society to offer in future.'

EMMA ONLINE

We send regular e-news, *Emma Connects*
(we need your email address)

Emmanuel College Members (private group):
f www.facebook.com/groups/554901871328458

Emmanuel in America:
f www.facebook.com/groups/emmausa

in Alumni of Emmanuel College

@ Follow EmmanuelCambridge

The Emmanuel Society and Development
Offices share staff and rooms on
D staircase, Front Court:
emmanuel-society@emma.cam.ac.uk
0044 1223 330476

VISIT EMMA

- Dine at High Table (matric 2017 and earlier):
www.emma.cam.ac.uk/dining
0044 1223 330476
(free for members, payment for a guest)
- Student guest rooms with shared facilities:
www.emma.cam.ac.uk/guestrooms
0044 1223 334255
- Private meetings, meals and conferences:
conferences@emma.cam.ac.uk
0044 1223 331978



THE NEWLY THATCHED CHANGING HUT AT
THE SWIMMING POOL EVEN HAS A DUCK
AND DUCKLINGS ON THE ROOF!





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