GATES Cambridge

THE GATES CAMBRIDGE YEARBOOK 2017

UNIVERSITY OF CAMBRIDGE

PATRONS

In 2012, Bill and Melinda Gates generously agreed to become patrons of the Gates Cambridge Trust. The Trust is delighted to reinforce a direct link between the Gates Cambridge Scholarships and the Gates family and the Foundation.

CONTENTS

ABOUT THE **SCHOLARSHIPS**

The Gates Cambridge Scholarship programme aims to build a global network of future leaders committed to improving the lives of others.

Gates Cambridge Scholarships are one of the most prestigious international scholarships in the world. The programme was established in October 2000 by a donation of US$210m from the Bill and Melinda Gates Foundation to the University of Cambridge; this is the largest ever single donation to a UK university.

Scholarships are awarded to outstanding applicants from countries outside the UK to pursue a full-time postgraduate degree in any subject available at the University of Cambridge.

Scholars are selected on the basis of their outstanding intellectual ability, leadership potential, commitment to improving the lives of others and a good fit between their qualifications and aspirations and the postgraduate programme at Cambridge for which they are applying.

The Gates Cambridge Trust administers all aspects of the programme, including supporting the important work of the Scholars' Council and Alumni Association.

The first class of Scholars came in to residence in October 2001; since then the Trust has awarded 1,683 scholarships to citizens of 108 countries. There are usually 225 scholars in residence at any one time.

The class of 2017 consists of 87 outstanding Scholars from 33 countries who will be widely distributed amongst Cambridge's Colleges and Departments. The following pages highlight their achievements, activities and aspirations.

Full details about the Gates Cambridge Scholarships are available from www.gatescambridge.org.

FOREWORD

Welcome to Cambridge and the Gates Scholar community! It's a wonderful achievement as the competition for Gates Scholarships is intense, and I congratulate you most sincerely on having been successful. You will now begin what I very much hope will be a memorable period of postgraduate study that sets you on the path to achieve your goals.

Cambridge University has had over 800 years to become a complex environment and one that you will gradually come to understand and to navigate. You have now joined at least three communities. First, the vibrant community of Gates Cambridge Scholars. Second, your University Department, Faculty, or Institute and, if you are a research Masters or PhD student, your supervisor's Research Group where you will conduct the majority of your original work. Third, you are also members of thriving graduate communities (Middle Combination Rooms, or MCRs) in your Colleges and this, I suspect, will be the most difficult to understand aspect of your lives here, since the collegiate system in Cambridge, along with that in Oxford, is unique.

I do not expect you to know and understand everything immediately, far from it. But you should know that the staff of the Trust, as well as current Scholars, will do everything possible to help you to do so and to make the most of your hard won opportunity to be a graduate student here. You will also find your College Graduate Tutors to be rich sources of advice and support.

The Gates Cambridge Scholars' Handbook will provide you with much of the information you will need to guide you through your arrival here and will help to answer some of your administrative and financial questions. Do not hesitate to contact the staff of the Trust if you have any specific queries that are not addressed in the booklet. I also urge you, Ph.D. students especially, to read the Code of Practice issued by the University and updated each year. Here the expectations of your supervisor and adviser are spelled out and also the expectations of you as a graduate student.

You will attend many events during the year, some organised by the Trust, but the great majority organised by the Scholars' Council and scholars. Some will be focused on your professional development (the excellent Learning for Purpose programme) and an increasing number that will bring you into contact with the Gates Cambridge Alumni Association and many alumni. While you should always place your academic research and study at the top of the list of your priorities, not least since the qualification you will gain in Cambridge is the passport to the next phase of your careers, you will also be able to take full advantage of these other opportunities and this, I am sure, will enrich your time in Cambridge.

The wonderful generosity of the gift to the University from the Bill and Melinda Gates Foundation has provided you with a unique opportunity to study in Cambridge – but it is your excellence that has enabled you to grasp it. Eventually and all too quickly, you the Gates Cambridge Scholars of 2017 will graduate and join a growing and ambitious global network of leaders, having the responsibility and privilege to shape the future and fulfil your commitment to improving the lives of others. I wish you every success in doing so and welcome you most warmly to Cambridge.

Professor Barry Everitt FRS
Provost

PEOPLE

TRUSTEES

Professor Stephen Toope
Vice-Chancellor of the University of Cambridge (Chair)

Mr Timothy Harvey-Samuel
Bursar of Corpus Christi College, Cambridge (Honorary Treasurer)

Professor Mary Sue Coleman
Former President of the University of Michigan; President of the Association of American Universities

Dr Mimi Gates
Former Director of the Seattle Art Museum and Yale University Art Gallery

Dr Julia Li
Senior Vice President Commercial Operations & Head of UK, Seven Bridges Genomics; UK-China AMR Research and Innovation Collaboration Advisory Panel and Gates Cambridge Scholar (2008)

Leigh Morgan
Former Chief Operating Officer at the Bill and Melinda Gates Foundation

Professor David Runciman
Head of the Department of Political Science and International Studies, University of Cambridge and Fellow of Trinity Hall, Cambridge

Professor Susan Smith FBA
Mistress of Girton College, Cambridge and Honorary Professor of Social and Economic Geography, University of Cambridge

Dame Barbara Stocking DBE
President of Murray Edwards College, Cambridge; former Chief Executive of Oxfam GB

STAFF

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Provost
Professor of Behavioural Neuroscience, University of Cambridge; former Master of Downing College, Cambridge

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Head of the Vice-Chancellor's Office, University of Cambridge

Ruth Bennett
Director of Finance

Jim Smith
Programme Director
Senior Member, Wolfson College, Cambridge

Celine Ophelders
Alumni & Events Officer

Luisa Clarke
Programme Manager

Colette Van den Hout
Programme Assistant

Usha Virdee
Accounts Officer

Mandy Garner
Communications Officer

GATES CAMBRIDGE **SCHOLARS' COUNCIL** 2017–2018

The Gates Cambridge Scholars' Council supports the aims of the Gates Cambridge Scholarship to create a network of responsible global leaders. Please refer to the Scholars' Handbook for further information.

Rebecca Love
President and Chair
The President/Chair of the Scholars' Council oversees its activities and liaises with the Trust on behalf of Scholars.

Michelle Teplensky
Vice President and Secretary
The Vice President/Secretary works with the President to coordinate the Council's activities and to liaise with the Trust.

Oliver McMillan
Treasurer
The Treasurer oversees the finances of the Council.

Annika Pecchia-Bekkum
Communications Officer
The Communications Officer is the conduit for assembling and distributing information to and about the Scholar community.

Edyth Parker
Community Officer
The Community Officer solicits ongoing feedback from Scholars and coordinates community service programming.

Muhammad Arif Naveed
Alumni Officer
The Alumni Officer works closely with the Gates Cambridge Alumni Association to connect the Scholar and Alumni communities.

Natalie Rebeyev
Internal Officer
The Internal Officer oversees the Scholars' Common Room and organises Internal Symposia each term.

Zachary Fitzpatrick
External Officer
The External Officer maintains good relationships and encourages social interaction between Scholars and members of other Scholarship programmes, the broader university community, and the world.

Annalise Higgins
PR and Outreach Officer
The PR and Outreach Officer facilitates the scholar community's engagement with alumni, the wider Cambridge network, the public, and potential new applicants.

Margaret Comer
Social Officer
The Social Officers plan a variety of events in Cambridge and trips further afield throughout the year.

Sara Morrisset
Social Officer
The Social Officers plan a variety of events in Cambridge and trips further afield throughout the year.

Eddie Cano Gamez
Social Officer
The Social Officers plan a variety of events in Cambridge and trips further afield throughout the year.

Krittika D'Silva
Technology Officer
The Technology Officer is responsible for maintaining the electronic hardware and software in the Scholars' Common Room.

Jake Glidden
Technology Officer
The Technology Officer is responsible for maintaining the electronic hardware and software in the Scholars' Common Room.

Karly Drabot
Learning for Purpose Co-Director
The Learning for Purpose Directors lead and organise a series of workshops aimed at skills development for Scholars.

Shraddha Kaur
Learning for Purpose Co-Director
The Learning for Purpose Directors lead and organise a series of workshops aimed at skills development for Scholars.

Harum Mukhayer
Orientation Co-Director
The Orientation Directors lead the Orientation committee, which organises Induction and Orientation activities to introduce the new Scholars to the Scholarship and build bonds amongst the community.

Ben Geytenbeek
Orientation Co-Director
The Orientation Directors lead the Orientation committee, which organises Induction and Orientation activities to introduce the new Scholars to the Scholarship and build bonds amongst the community.

Emma Glennon
Orientation Co-Director
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GATES CAMBRIDGE ALUMNI ASSOCIATION (GCAA)

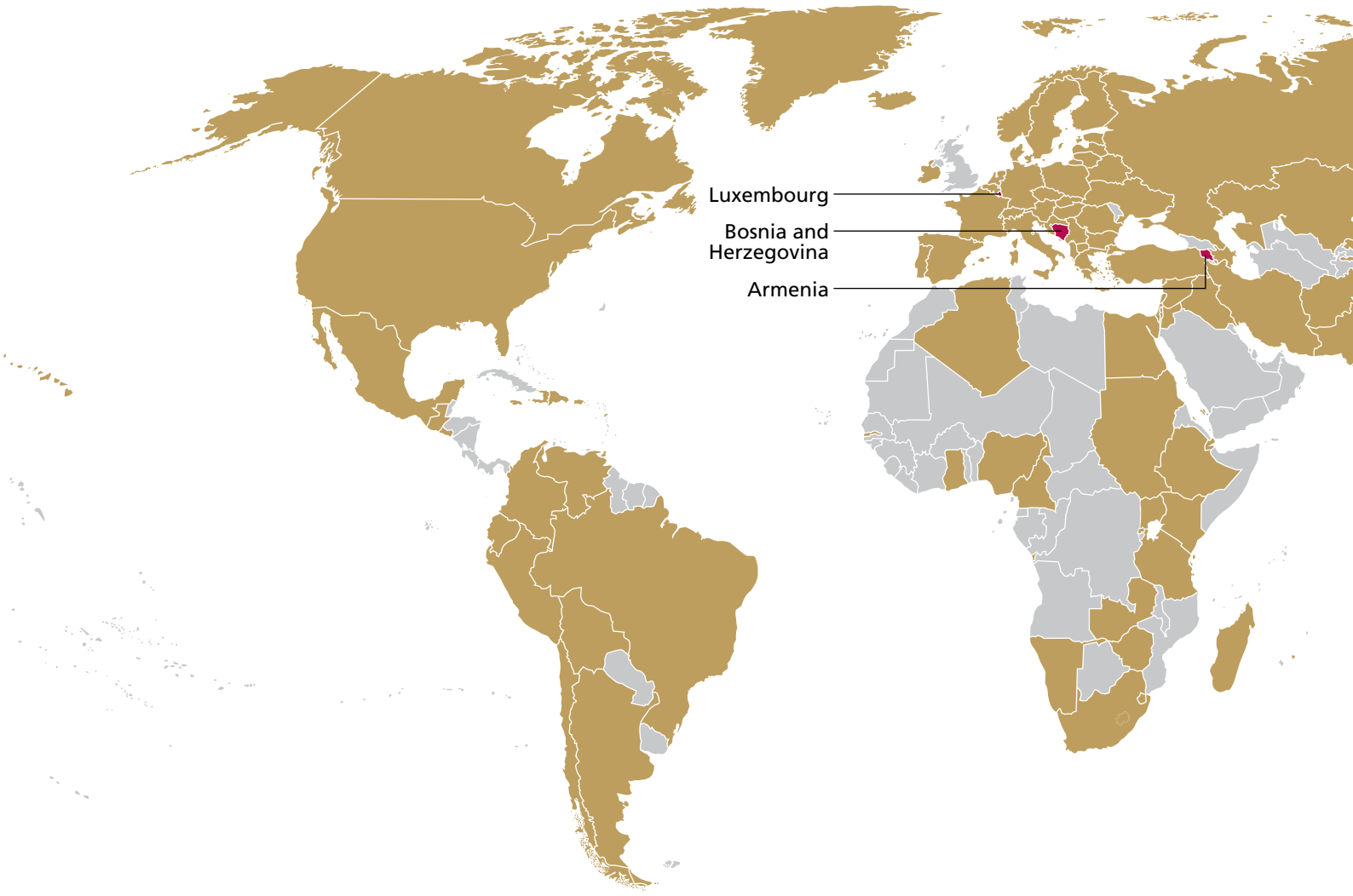
The Gates Cambridge Alumni Association (GCAA) aims to develop an international network of Gates Cambridge Scholars, to promote the Gates Cambridge Scholarship and to engage Alumni through the exchange of knowledge, academic ideas, and professional development. For details about the full Board and its work, please refer to the Scholars' Handbook and www.gatescambridge.org/experience/beyond-cambridge/alumni-association

Rebecca Saunderson (2012)
Co-Chair

Robert Rivers (2003)
Co-Chair

BUILDING A GLOBAL NETWORK

This year we welcome our first Scholars from Luxembourg, Armenia and Bosnia & Herzegovina, which expands the global reach of the Gates Cambridge programme to 108 countries.



Class of 2017 by Primary Citizenship

Armenia 1
Australia 2
Bosnia and Herzegovina 1
Canada 4
China 2
Czech Republic 1
Ecuador 1
Germany 2
Hong Kong 1
Hungary 1
India 3
Iran (Islamic Republic Of) 1
Italy 1
Japan 1
Kenya 1
Korea, Republic of 1
Kyrgyzstan 1
Lebanon 1
Luxembourg 1
Mexico 3
Nepal 1
Netherlands 1
New Zealand 2
Pakistan 3
Romania 1
Singapore 2
South Africa 1
Sweden 1
Trinidad and Tobago 1
Turkey 1
United Kingdom 1
United States 41
Zimbabwe 1

KEY

- Countries represented to date
- Countries not yet represented
- New countries in class of 2017

Luxembourg
Thierry Mousset
PhD German
King's College

I feel honoured and excited Luxembourg has now become part of the global Gates Cambridge Scholars community. Being one of the smallest countries in Europe, Luxembourg has an extraordinary potential thanks to its cultural, linguistic and social diversity. I hope that my experience at Cambridge will inspire more people to develop challenging and creative projects with a positive social impact in a long term perspective.

Armenia
Hayk Saribekyan
PhD Computer Science
St John's College

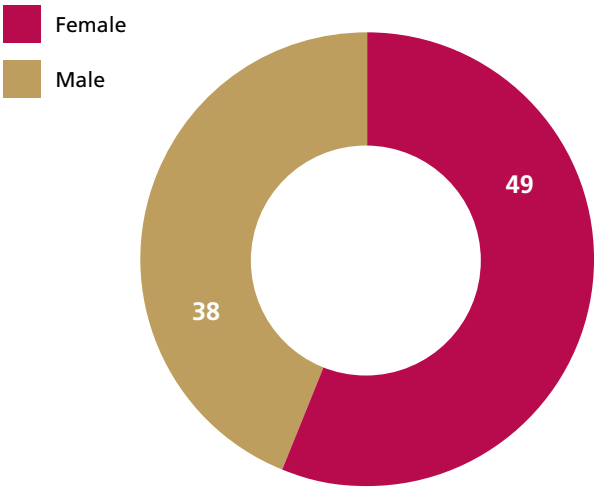
It is a great privilege for me to represent Armenia in the Gates Cambridge community. Throughout its history Armenia was mostly dominated by empires. Nevertheless the Armenian people have preserved their culture throughout centuries thanks to their unique language, alphabet and drive to pass their heritage from one generation to the next. By being the first scholar from Armenia I feel a great responsibility to share this drive for knowledge with my peers.

Bosnia and Herzegovina
Marina Velickovic
PhD Law
Pembroke College

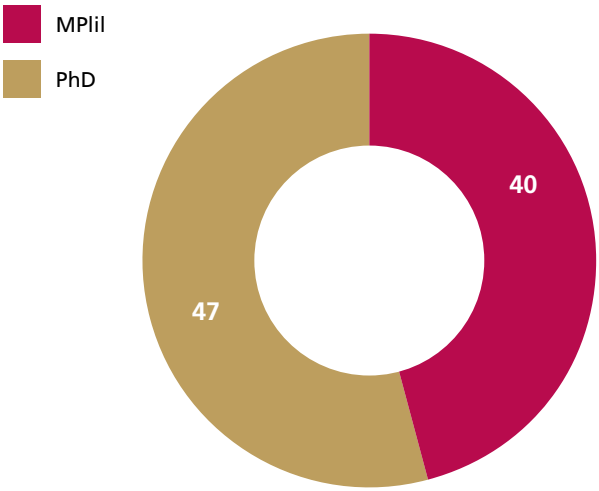
I feel honoured to be the first Gates Scholar from Bosnia and Herzegovina. The financial, intellectual and community support that is awarded by the Gates Cambridge Scholarship makes it possible to access and excel at one of the finest educational institutions in the world, regardless of one's background. This is particularly important for students from countries with significant social inequalities, where young, ambitious people often feel trapped in an unjust system. I hope that my time at Cambridge will pave the way for me to try and tackle some of those underlying inequalities in my home country.

STATISTICAL SUMMARY: CLASS OF 2017

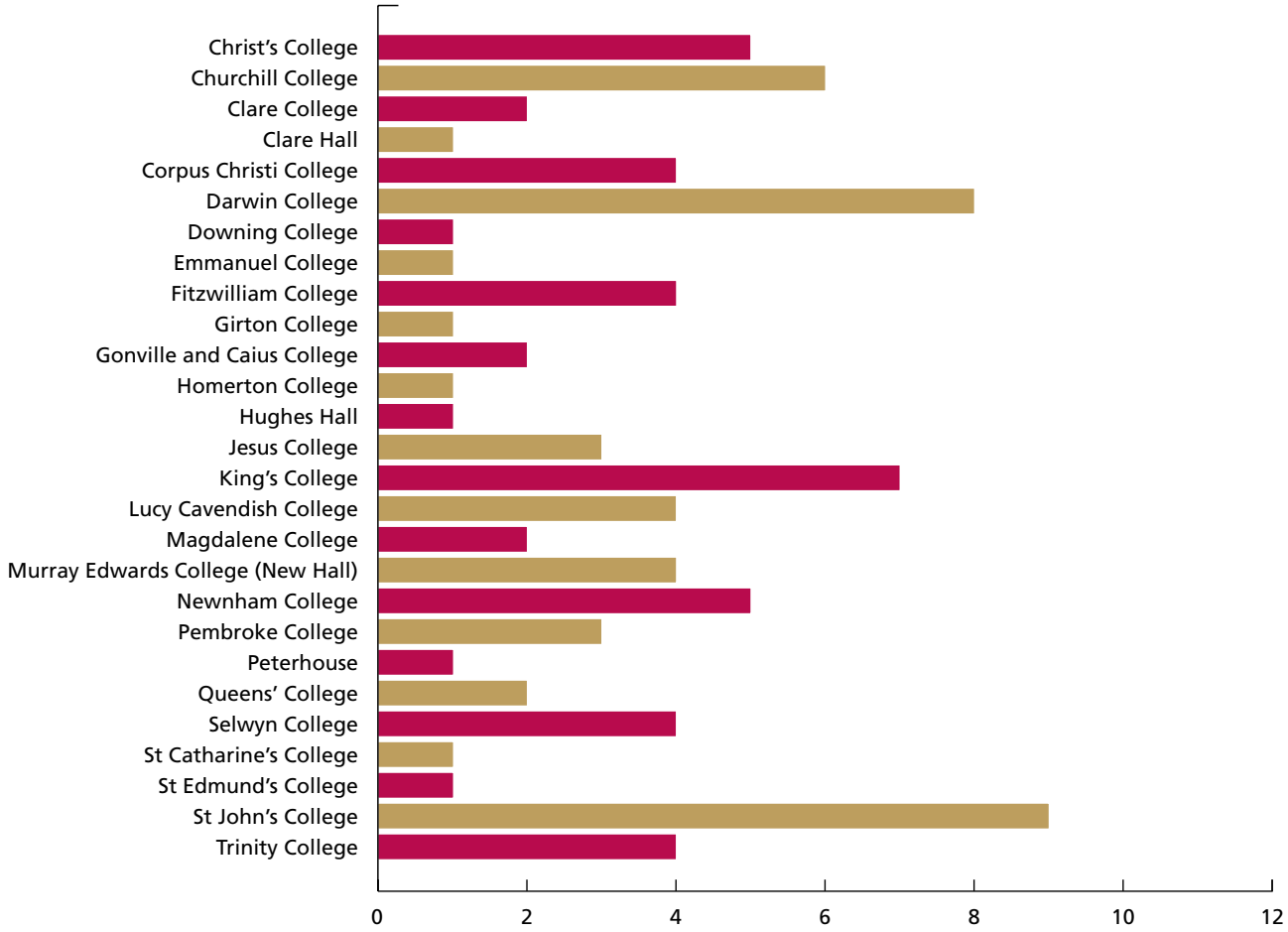
Gender



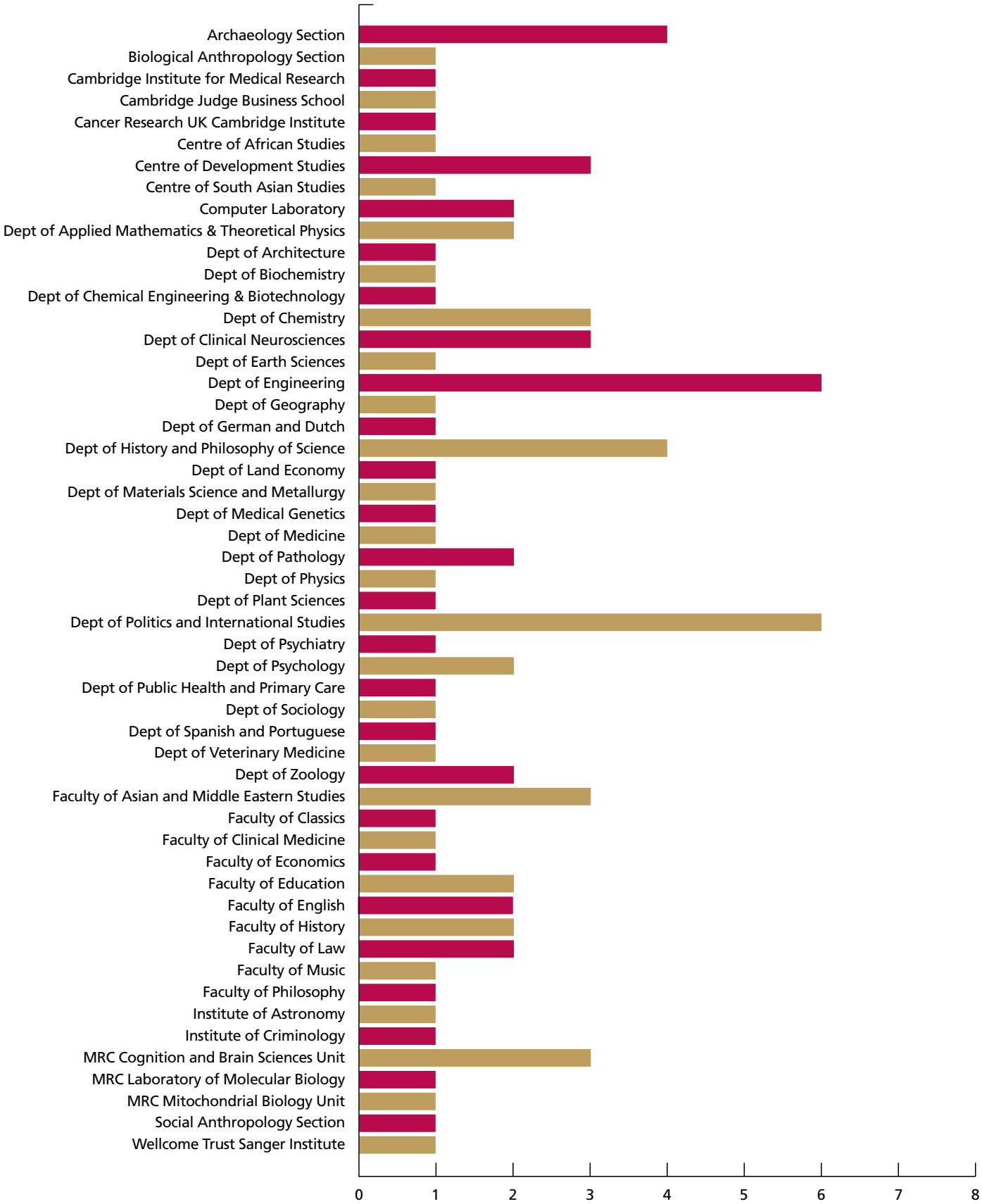
Degree type



College



Department


Archaeology Section
Biological Anthropology Section
Cambridge Institute for Medical Research
Cambridge Judge Business School
Cancer Research UK Cambridge Institute
Centre of African Studies
Centre of Development Studies
Centre of South Asian Studies
Computer Laboratory
Dept of Applied Mathematics & Theoretical Physics
Dept of Architecture
Dept of Biochemistry
Dept of Chemical Engineering & Biotechnology
Dept of Chemistry
Dept of Clinical Neurosciences
Dept of Earth Sciences
Dept of Engineering
Dept of Geography
Dept of German and Dutch
Dept of History and Philosophy of Science
Dept of Land Economy
Dept of Materials Science and Metallurgy
Dept of Medical Genetics
Dept of Medicine
Dept of Pathology
Dept of Physics
Dept of Plant Sciences
Dept of Politics and International Studies
Dept of Psychiatry
Dept of Psychology
Dept of Public Health and Primary Care
Dept of Sociology
Dept of Spanish and Portuguese
Dept of Veterinary Medicine
Dept of Zoology
Faculty of Asian and Middle Eastern Studies
Faculty of Classics
Faculty of Clinical Medicine
Faculty of Economics
Faculty of Education
Faculty of English
Faculty of History
Faculty of Law
Faculty of Music
Faculty of Philosophy
Institute of Astronomy
Institute of Criminology
MRC Cognition and Brain Sciences Unit
MRC Laboratory of Molecular Biology
MRC Mitochondrial Biology Unit
Social Anthropology Section
Wellcome Trust Sanger Institute
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Minaam Abbas — Pakistan

PhD Pathology
St John's College

Since my days at Karachi Grammar School, the diverse and innovative realms of biomedical sciences and healthcare captured my imagination. As I commenced my medical training at Cambridge, I was astounded by the complex collection of molecular machines and networks that formed an unlikely, harmonious cooperative: the human body. At Caltech, I investigated human neural reference frames in Brain Machine Interfaces. This inspired a Part II in Neuroscience, which gradually revealed the dearth of approved medications for neural tumours. This drove me to cofound a cancer therapeutics and drug delivery bio start-up, angioClast, which is developing a sophisticated treatment strategy for vascularised tumours. As an MB/PhD student, I hope to study the cryptic world of RNA and DNA modifications at the Kouzarides Lab. This unexplored field has ground breaking implications for future therapeutics. I also hope to further delve into the fascinating fields of public health and health-tech. These interests were shaped by my forays into public policy for Neglected Tropical Diseases, and a micro-financing social venture featured at the Hult Prize Regional Final. I wish to discover synergies across the journey from bench to bedside, delivering innovative personalised medicine.

Nicholas Ahamed — USA / Canada

MPhil International Relations and Politics
St John's College

As a Muslim in post-9/11 America, my loyalties are constantly questioned. The bigotry I have faced demonstrates to me the inequalities still prevalent in America. All too aware of these, my research at Stanford University focused on bringing rigorous methodologies to questions of politics, race and voting. My thesis examining Islamophobia in America synthesised the lessons of my Bachelors of Arts in Political Science and my minor in Statistics. Subsequently, I served as a data scientist at Civis Analytics where I provided data-driven strategic recommendations and targeting guidance to PACs in the 2016 election. As a Gates Cambridge Scholar, I hope to tie these experiences together to better understand voting. I would like to develop an election-specific, individual-level measure of voter turnout that accurately predicts the likelihood that an individual will cast a ballot. Not only will this research improve our theory of voting, but also better enable political practitioners to identify those citizens who need a push to vote. When organisations transform more non-voters into voters, our elections are more vibrant and our democracy is better off for it.

Aicha Aleian* — France / Jordan

PhD Psychology
Darwin College

The roots of my passion for Neuroscience stem from my deep interest in psychiatry, especially in drug addiction. This chronic relapsing disorder, which causes much suffering in addicted individuals and their families, is one of the major concerns of modern societies which have yet to develop effective preventive strategies or effective treatments. I believe that one of the best approaches to deliver better pharmacological treatments is through a better understanding of the neural, including neurochemical mechanisms, underlying addiction. Thus, during my PhD at Cambridge, I aim to investigate the neural and cellular mechanisms of the individual vulnerability to develop compulsive drug seeking, the hallmark feature of addiction. After Cambridge, I plan to develop my skills in brain imaging in humans and then, go on and set up my own research lab with a translational component, including both pre-clinical models and human studies as I am convinced that it is the best way to address the question of psychiatric disorders. I am honoured to be part of a community that aspire to make the world a better place! I am a French Palestinian and love travelling, sports, reading, writing, humanitarian work and entrepreneurship. I am interested in policy, women and minorities in science and society.

*** Deferred from previous year**

Patricia Andrews Fearon — USA

PhD Psychology
Selwyn College

My passion for the science of perspective-taking and cognitive complexity emerges from my background as a journalist. This short career afforded me invaluable opportunities to travel in over 40 countries, work with companies like CNN, TIME Inc., and NGOs like Room to Read, and even to cycle across France making the documentary "The Tour de Farm". However, it soon became apparent that the most important stories fail to incite change when they are trapped in echo chambers. Turning my energies towards the science of listening and perspective-taking, I joined the IC Thinking Research Team based in Cambridge and have collaborated on studies and intervention designs that tackle sectarianism, violent extremism, and other forms of intergroup conflict in Bosnia, Pakistan and Scotland. I have also recently studied social and cognitive psychology as a post-baccalaureate scholar at UC Berkeley in the Emotion and Emotion Regulation Laboratory. As a certified conflict mediator in San Francisco, I mediate disputes between police officers and citizens and between community members through the Department of Police Accountability and Community Boards. In my PhD research at Cambridge, I look forward to exploring the ways we can learn to listen in even the most hostile environments.

Yu Qian Ang — Singapore

MPhil Technology Policy
Trinity College

I graduated from the National University of Singapore, had the privilege to serve as President of the students union, and also co-founded a start-up. My subsequent role at the Ministry of Trade and Industry has given me exposure to strategic planning and execution efforts to translate research and technology into solutions that address economic, social and environmental needs, as well as to build up innovation capabilities to drive growth in various industries and corporate segments. I also adjunct lecture at the School of Science and Technology in a local university. I am humbled and excited to join the Gates Cambridge community. Through this MPhil program, I hope to leverage technology policies to enhance economic growth, raise social mobility and promote greater inclusiveness. In my free time, I enjoy computer games, street soccer and tinkering with gadgets.

Saloni Atal — India

PhD Psychology
Christ's College

I grew up in the city of Mumbai, where I have witnessed enormous disparities in wellbeing and access to treatment and care. My concerns led me to pursue the MPhil in Social & Developmental Psychology at Cambridge (2015–16) as part of which I conducted an ethnographic inquiry into the quality of mental health care slum-dwelling women receive in Mumbai. I interviewed women across six slum settlements and informants at hospitals and shrines. I found high levels of institutionalisation and neglect in these communities. In my view, this predicament reflects the scarcity of specialist mental health professionals in India. By pursuing a PhD, I hope to generate innovative and culturally appropriate solutions to tackle the problem of gaps in access to care. In partnership with local non-profit organisations, my PhD will assess the impact and feasibility of training non-specialists, particularly community health workers, to support the mental health needs of slum-dwelling women. I believe a non-specialist approach holds the key to strengthening mental health services in countries like India. I am deeply honoured and excited to be joining the Gates Cambridge community that is so committed to making social impact at scale.

Megan Ansbro* — USA

PhD Pharmacology
King's College

Born and raised in Conneaut, Ohio, I attended college nearby at Denison University. During my undergraduate studies, I performed research in cellular biology and quickly became intrigued by the ways in which genetic changes can cause (and even promote!) disease, specifically cancer. My passion for scientific research and medicine led me to pursue a combined MD/PhD degree. I am currently finishing my second year of medical school at the University of California, Irvine and will begin my PhD in the Department of Pharmacology at Cambridge and the National Institutes of Health in the National Cancer Institute. My PhD work will analyse the role of multi-drug transporters in the development of cancer cell resistance to chemotherapeutic treatments. I am extremely grateful for the opportunity to study as a Gates Scholar and NIH Cambridge Scholar. I know my time as a Gates Scholar will greatly enhance my understanding of the mechanisms of drug resistance and my ability to harness this knowledge to advance treatment methods. The integrative nature of my PhD studies at Cambridge will provide the optimal foundation from which I can continue to evolve as a researcher, physician, teacher, and continual learner.

***NIH Scholar transfer**

Adriano Bellotti — USA / Lebanon

PhD Engineering
Darwin College

As an undergraduate at North Carolina State University, I began to appreciate the pragmatic perspective and mathematical methods of research in biomedical engineering, and sought to apply this empirical approach to medicine. This led me to pursue an MD-PhD dual-degree with the University of North Carolina in hopes of leading medical researchers in facilitating the translation of new treatments and technologies into the clinic. I am particularly interested in studying neurophysiology through computational modelling, specifically with regard to neuroplasticity in both a single neuron as well as across neuronal circuits. Gaining a basic mechanistic understanding of neuronal regulation has great implications for understanding and treating various neurological disorders and pathologies. The ideal solution to any illness involves input from all applicable fields, including basic science, clinical science, epidemiology, sociology, and psychology. The Gates Cambridge community promotes collaboration across these disciplines, and I hope to apply my engineering background and clinical experiences to my graduate work. With careful consideration of all these viewpoints, we can achieve our ultimate goal of providing the best possible patient care.

FROM THE LAB BENCH TO MEDICAL ENTERPRISE

MINAAM ABBAS

Minaam Abbas is co-founder of two businesses which have the potential to transform how we fund business and how we treat cancer.

He is both chief operating officer of angioClast, a company which aims to develop drugs that can target blood vessels of the most aggressive form of brain cancer, and co-founder of Hazina, a social enterprise that aims to turn microfinance on its head by cutting out the middle man and providing an alternative credit rating for the smallest businesses while also teaching financial literacy.

Minaam's PhD will focus on the new field of epitranscriptomics, looking at how RNA can be modified and how these modifications can be used to fight cancer.

His driving passion is to make a positive impact on people's lives and through both his research and enterprise he is already doing so, but he might not have made it to where he is now without the support of local businesspeople in Pakistan, of individuals and institutions at Cambridge and now the Gates Cambridge Trust.

Minaam, who was born and brought up in Karachi, Pakistan chose Cambridge because it was one of the few universities to offer the MB/PhD programme he was interested in. "I wanted to be a doctor and do academic research," he says.

The first two years were pre-clinical and in his third year he specialised in neuroscience. This was in large part due to an exchange programme he took part in with Caltech in his second year. There he worked in the Richard Anderson laboratory which is doing pioneering work on brain machine interfaces, for instance, getting people to move prosthetic limbs using brain signals. Minaam's research involved analysing how individual neurons compute movement from sensors hooked up to the brain. On his return to Cambridge Minaam did his third-year thesis on the data collected at the laboratory.

At the same time he was getting involved in medical entrepreneurship. He had taken part in the National Institutes of Health's Neuro START-UP Challenge in his second year. Minaam's team chose to focus on the discovery of biomarkers on the inside of cancer blood vessels in Glioblastoma multiforme, one of the most aggressive forms of brain tumour. Patients diagnosed with the tumour tend to die within one to two years of being diagnosed and the two chemotherapy treatments currently available are fairly blunt instruments to deal with it.

The team decided they might be able to starve the cancer of nutrients by developing a treatment that could target the cancer blood vessels. Their research has recently shown the technique could significantly reduce tumour size.

With help from the Judge Business School's accelerator programme angioClast has won international exposure and mentors after winning several competitions which has helped it to make significant progress.

Minaam's involvement marks one of the biggest changes in his thinking about medicine and has opened up new avenues to explore. He is now much more interested in bioentrepreneurship and biotechnology policy, for instance.

It's not the only entrepreneurial activity he is involved in either. He is a co-founder of an organisation called Hazina, which spun out of several social entrepreneurship societies. Hazina, which competed for the prestigious Hult Prize, aims to turn microfinance on its head by creating a mobile peer to peer platform which reduces the need for middle men and connects small businesses around the world with finance, provides an alternative credit scoring system, based on criteria such as a businessperson's active social networks, and also seeks to boost financial literacy.

For his PhD, Minaam will work at Professor Tony Kouzarides' laboratory and will look at how RNA molecules can be modified based on their cell environment and how this applies to stem cells and oncology – and by the laboratory's emphasis on biotech entrepreneurship.

Lily Bentley — Australia

PhD Zoology
Corpus Christi College

I grew up in Brisbane, Australia, surrounded by incredible areas of biodiversity, and was always asking questions about the animals around me. While working at RSPCA Queensland, I learned that as well as being critical parts of complex ecosystems, animals are individuals with unique personalities that influence how they move through the world. In my Honours study at the University of Queensland, I investigated the movement ecology and thermal physiology of salt water crocodiles, analysing over 9 million data points in R. It was here that I became fascinated by the insight we can obtain from remote monitoring of wildlife, and the challenges and benefits of analysing large, long term data sets. During my PhD in Zoology, I will investigate the way that Antarctic seabirds use ocean habitat, to better understand polar ecology, to mitigate bycatch, and ultimately conserve these species. In addition to my academic interests, I am passionate about the value of outreach and education in the sciences. I believe that if we can better explain the excitement of scientific research to the wider community, we have a better chance of successfully implementing the policy changes needed to save endangered species and mitigate the effects of climate change.

Mamasa Camara* — USA

MPhil African Studies
Churchill College

As the trilingual daughter of a traditional West African healer, my identity embodies the complexity of diaspora, migration, and collective memory. My research interests are in African identity formation, the social, political, and historical processes which inform various African experiences across and through diaspora. Through a historical lens I investigate the practice of female circumcision and how to apply this analysis to aid contemporary efforts to address the practice. My past research explored British colonial narratives on female circumcision in Kenya and received the highest honour thesis award in the History Department at Spelman College. In 2012, I collaborated with the Vice President of the Gambia to organise the first national conference on women's health to mutually create strategies to address women's health disparities. In 2014, I also travelled to China to research how West Africans construct community and engage their host population while navigating difficult political circumstances. I am committed to contributing to knowledge production that engages with communities and their material realities. At Cambridge I will continue to excavate how historical forces inform contemporary moments in African Studies, by examining discourse on female circumcision and its real-world implications.

*** Deferred from previous year**

Eddie Cano Gamez — Mexico

PhD Biological Science at the Sanger Institute
Selwyn College

From my childhood, I remember the smell of books. The shelves full of novels at my grandmother's house, the aroma of old pages in the reading room of my primary school. I like to think of my life as a series of libraries. From the surreal verticality of Biblioteca Vasoncelos, with its whale skeleton hanging from the roof, to the Maori carvings of Auckland University Library. When you think of it that way, perhaps it is not surprising that, after pursuing a degree in biotechnology in Mexico City, I ended up studying immunogenomics. Picture, for instance, Alice in Wonderland. Here it takes all the running you can do, to keep in the same place, said the Red Queen. When I read this quote, I think of the immune system. How fast must it run to keep our place in a world ruled by microbes? But the immune system does not run, it plans ahead and divides tasks. It is a community that talks. During my PhD in Cambridge, I will study this community using a special kind of science, single-cell genomics. Because I firmly believe in the transforming power of knowledge, when out of the lab I like teaching, and promoting art and science. Languages and music are my biggest passions. Monet, my favourite painter. And my dream, to someday have a positive impact in Latin American society.

Erica Cao — USA

PhD Music
Lucy Cavendish College

I cross-pollinate between the arts and sciences, theory and practice, and across cultures. A daughter of immigrants from post-Cultural Revolution China, in America I had the freedom to pursue music and the arts while curious about the science I grew up in. As I engaged in my studies first at Princeton in Psychology and Music Performance, then an MPhil in Music Studies at Cambridge, followed by medical school at Columbia University, I witnessed both the stories and theories of how music impacts lives like my own and the students and children I knew. I am excited about implementing interventions and programmes which bring out music's ability to affect human functioning and build community, while engaging in the new ideas behind music as a form of communication and oral history. I believe in the power of music in aiding neuropsychiatric disorders, in reconciliation and understanding between communities, and in reshaping our institutions and cultures towards civil society. Music, like communities such as Gates, showed me who I was as an individual while grounded in a shared humanity.

Chai Hao Chiu — Singapore

PhD Plant Sciences
Fitzwilliam College

I am fascinated by the biological processes that underlie how plants interact with their environment, especially the symbiosis between plants and beneficial arbuscular mycorrhizal (AM) fungi. Evolved when plants first moved onto land, AM symbiosis is crucial to global carbon and nutrient cycles. The perception of AM fungi often enhances root growth, increasing the interface for symbiotic nutrient exchange. As an undergraduate at Cambridge, I identified the first receptor kinase required for this response in rice. As a Ph.D. student, I aim to pursue this exciting lead and elucidate the mechanisms of fungi perception and the signalling pathways that lead to enhanced root growth. This will also contribute to ongoing endeavours to engineer nitrogen-fixing symbiosis into cereal crops (e.g. rice) as it evolved from the older AM symbiosis and also involves reprogramming of root development. Nitrogen fertilisers produced from the Haber process have a substantial carbon footprint and realising this grand challenge will contribute towards sustainable, productive agriculture for food security. I am honoured to join the intellectual community at Gates Cambridge and aspire to contribute to work with transformative impacts on the society.

Henry Cousins — USA

MPhil Bioscience Enterprise
St John's College

I am fascinated by the potential of emerging biomedical tools to treat new diseases. A native of Massachusetts, I graduated from Harvard University, where I studied neuroscience in several contexts, including retinal disease in premature infants, non-traditional symptoms in Alzheimer's disease patients, and synaptic patterning in the developing brain. More recently, I conducted thesis research into how young neurons decide to assemble specific circuits in the outer retina. While teaching children throughout the US and Southeast Asia, I have also witnessed the personal challenges of healthcare access around the world. These experiences have guided my belief that biomedical research must combine technical progress with new modes of development and distribution. At Cambridge I will pursue an MPhil in Bioscience Enterprise, which will prepare me to address these questions through a career in medicine. Outside my studies I hope to continue my other interests in jazz music, youth coaching, and woodworking.

Jamie Cyr — USA

PhD Materials Science and Metallurgy
Churchill College

Throughout my undergraduate education at Smith College, I gained a great appreciation for interdisciplinary dialogues to advance scientific knowledge. I leveraged my mathematical background to organise and connect topics in biology, biomathematics, chemistry, and physics, as well as psychology, sociology and archaeology. My interdisciplinary studies have broadened the perspective with which I approach problems in preparation for a career in the field of global medical research and the design of medical devices for the developing world. I have integrated my diverse academic interests with my medical aspirations through an MPhil at the Cambridge Centre for Medical Materials, where I am currently working to improve the three-dimensional architectural control of affordable ice-templated collagen scaffolds. My work allows these scaffolds to closely mimic the structure and texture of natural tissue and will be employed in regenerative medical applications such as cardiac muscle repair, dermal grafts, nerve regeneration, and joint restoration. As part of the Gates Cambridge community, I will pursue a PhD focused on the development of a cardiac patch that will facilitate the regeneration of damaged heart tissue. Additionally, I will refine the novel technique I developed during my MPhil to enable this technology to be used in regenerative medical applications throughout the body.

Leena Dahal — Nepal / Malaysia

MPhil Modern South Asian Studies
Trinity College

As I was born in Nepal but raised between Nepal, Cambodia, Laos, Bangladesh and Indonesia, I constantly grapple with the question: what defines identity and citizenship in regional, transnational and global contexts? Using my cross-cultural lens and my interdisciplinary experiences as a double major in International Studies and Strategic Communications and minor in Religious Studies, I plan to pursue an MPhil in Modern South Asian Studies at Cambridge to explore identity and intersectionality in context of South Asia. My proposed study explores how social media helped or hindered nuanced discussion on nationalism and identity in response to the 2015 unofficial border blockade between Nepal and India. By highlighting the ways in which social media driven narratives can influence how nationalism is embodied, my research would attempt to unpack the process by which complex phenomenon can turn into broad-brush approaches to strategically influence particular stakeholders involved in the conflicts. The global rise in digital politics raises the need to develop necessary literature to understand its role in influencing public perception and framing dominant narratives around social issues.

BOOSTING THE ROLE OF WOMEN IN MENTAL HEALTHCARE

SALONI ATAL

Saloni Atal is determined to improve the availability of mental healthcare for women in the poorest communities of India.

"Mental healthcare doesn't get the attention it needs," she says. "We do not tend to think mental health problems can cause suffering in the same way that illnesses like AIDS can. Years of productivity can also be lost. The statistics are astounding, yet there is very little research in India into mental health interventions for groups such as slum-dwelling women, who are most vulnerable to mental health problems and least likely to get access to proper care. This is important given that women play a key role in the success of future generations."

She says the interventions that are available in India tend to be bio-medically focused rather than community based, although she adds that the landscape of mental health is shifting. There is now more of a national interest in addressing mental health problems, but this has not yet translated into adequate funding for research, she says.

The focus of her PhD in Psychology will be on community mental health workers. She will work with NGOs and lay women from local communities who will be trained to give mental health support. "We lack mental health specialists in India," says Saloni, "and this is why non-specialists like community health workers can be a huge asset. Lay women also understand the needs of their community at a visceral level. Through my project, I want to empower these women and give them the tools to tackle the community's mental health problems."

Saloni was born in Mumbai, India, and lived there for most of her childhood. That background has heavily influenced her research. "Half the population is homeless and lives in slums. I was a witness to that disparity growing up. It really got under my skin and I am trying through my research to alleviate the suffering," she says.

Saloni's family donated money to charity regularly and Saloni, who is an only child, grew up with the idea that it was important to give back to society. Both parents placed a big emphasis on education, with her mother being a teacher.

The family moved around a lot and Saloni went to six different schools, the last one being an international school. The school was one of the best academic institutions in the city. Saloni says it really opened her horizons. It was because of the school that she chose to do her undergraduate studies at the University of Hong Kong and because the university offered a generous scholarship. In the end, she says, it was also the reason she applied to the University of Cambridge.

From the age of 15, Saloni knew she wanted to do a PhD. She was interested in psychology and in illnesses that are hard to diagnose, but that interest ran alongside a commitment to poverty alleviation. Starting in school she also did a lot of community work. It was only later when she started to study psychology that Saloni realised that she could merge the two interests due to the links between poverty and mental ill health.

Her undergraduate dissertation focused on understanding and identifying some of the pathways that link low socioeconomic status with poor mental health and how these might be modified. For the dissertation, she interviewed people from different socioeconomic groups in India and measured their ability to use different coping strategies in different situations. She found that people from lower socioeconomic groups who coped adaptively to their situation had as good health outcomes as those from upper socioeconomic groups.

Saloni was keen to extend her research from a more grassroots level to understand people's lived experience of poverty. She did her master's at Cambridge, focusing on finding out what mental healthcare was available to the poorest, discovering where the gaps were and what might be needed to fill them. She did fieldwork across six slum communities in Mumbai, working with local NGOs. Her PhD will continue this work.

Akhila Denduluri — India

PhD Chemistry
Murray Edwards College

I was born and brought up in South India. I chose to pursue bioengineering as an undergraduate to study the human body from the perspective of a structure-function relationship defined within a mathematical framework. As part of my Masters in biomedical engineering at Johns Hopkins, I worked on developing a polymer based gene delivery therapy for brain tumours and explored ways of making this technology available to patients. As a PhD student in Chemistry at Cambridge, I hope to work on developing biophysical tools to better understand and elucidate the protein chemistry and associated toxicity in neurodegenerative diseases. However, in many parts of the world, there is a large gap between the availability and financial accessibility of life-changing technologies. This has been partly informed by my upbringing in India and my work with non-profits developing public health interventions. As part of the Gates Cambridge community, I aspire to address this gap by working at the intersection of research and social entrepreneurialism to improve the standard of care in low and middle income countries.

Sarita Deshpande — USA

MPhil Medical Science (Clinical Neurosciences)
Lucy Cavendish College

I am currently studying bioengineering with a concentration in cellular and tissue engineering at the University of Illinois at Chicago. As an undergraduate student, I have engaged myself in neuroscience and bioengineering research, which has fostered my passion to study ocular pathology in the scope of neuroscience. During my MPhil in Medical Sciences at Cambridge, I will study the aetiology of glaucoma and the mechanisms of cell death, which can provide further insight into developing novel therapeutic options. I am honoured and excited to join the dynamic group of scholars that make up the Gates Cambridge community.

Atticus Deprospo* — USA

MPhil Criminology
Darwin College

I received my B.S. degree in Industrial & Labour Relations from Cornell University in May 2015, graduating with honours. My senior honour thesis covered the subject of LGBTQ inclusion in collegiate athletics. I was a member of the Cornell Varsity Men's Soccer Team for four years, helping them win an Ivy League Title in fall 2012. I am also a co-founder and student-athlete representative on the LGBT committee for the National Soccer Coaches Association of America (NSCAA). Previously, I worked in Florida and Washington D.C. as an intern for Senator Marco Rubio. I also interned at the Supreme Court of the United States in 2015. I was a member of the inaugural class of the Schwarzman Scholars Program, where I pursued a Master of Management in Global Affairs at Tsinghua University in Beijing. My goal is to pursue a career as a public servant in the federal government and as an inclusion ambassador for professional sport leagues. I am honoured to be joining the Gates Cambridge community, made up of scholars working to improve society all around the world.

*** Deferred from previous year**

Frances Ding — USA / Canada

MPhil Machine Learning, Speech and Language Technology, Trinity College

Born in Canada and raised in both Vancouver, BC, and Nashville, Tennessee, I've seen a wide spectrum of people's life experiences, which go on to build drastically different world views. These world views dictate societal structures, often overlooking the perspectives of the marginalised. How is this relevant to my studies? I believe that while the artificial intelligence revolution has the potential to greatly improve lives, it also presents a pressing risk: machine learning algorithms may entrench the assumptions and biases of the global elite in systems ranging from gendered job advertising to racially discriminatory loan decisions. As an undergraduate at Harvard University, my extracurricular involvement with Partners in Health Engage and Effective Altruism taught me that even the most well-intentioned plans to improve the world can fail if they aren't empirically tested in different cultures and contexts. Thus at Cambridge, I'll be undertaking an MPhil in Machine Learning, Speech and Language Technologies, with a particular interest in the interpretability of machine learning algorithms, inverse reinforcement learning of human values, and the development of algorithms robust to many contexts. My hope is that soon, algorithms will be able to work alongside humans to make better loan decisions, text analyses, medical diagnoses, and improve lives around the world.

Michael Drakopoulos — USA

MPhil Medical Science (Haematology)
Churchill College

I believe that the purpose of science is to understand, the purpose of medicine is to cure, and the purpose of engineering is to improve quality of life. I studied biomedical engineering at Purdue University seeking to bring regenerative medicine into widespread clinical practice. My research at the U.S. National Heart, Lung, and Blood Institute convinced me that regenerative blood therapies will be the first sub-field to see widespread clinical translation, and I will study such a therapy during my MPhil at Cambridge. Beyond learning the scientific techniques required for the creation of regenerative blood therapies, I also wish to understand the regulatory, economic, and ethical challenges brought about by the approval of such treatments. At Purdue, my developmental biology research, genetic engineering policy work, and efforts in co-founding a nationally-awarded medical device design team led me to take a broad perspective incorporating pragmatic approaches to therapy development, approval, and adoption. I wish for regenerative treatments to reach all those who need them across the globe, and I intend to identify and work through the barriers to this goal, scientific and otherwise.

Derek Driggs — USA

PhD Applied Mathematics
Downing College

After growing up in Golden, Colorado, USA, I completed my Bachelor's and Master's degrees in Applied Mathematics at the University of Colorado Boulder. During my time at CU Boulder, I focused my research on developing algorithmic tools for the analysis of large data sets, especially fMRI brain scans. At Cambridge, my research will involve creating machine-learning algorithms to solve imaging problems. I hope to investigate applications in medical imaging, using intelligent machines to assist medical practitioners in diagnostics.

Jingwen Fan — China

PhD Medicine
Emmanuel College

Growing up in a developing country, I was deeply impressed by how science and technology have improved the quality of people's life. On the other hand, as I was volunteering in science education in remote villages, I also realised education and medical care are distributed unequally in some undeveloped regions. With my ultimate goal of making everyone around the world have equal right to basic medical care, I was determined to become a medical scientist and to develop useful and affordable therapies to improve people's lives. Following on from my undergraduate study at Xiamen University, my PhD in Professor Lalita Ramakrishnan's lab will work on improving and possibly discovering new therapies for tuberculosis infection. As one of the oldest known human infectious diseases, tuberculosis is estimated to infect one-third of the global population and causes about 2 million deaths each year. The rapid increase of multidrug-resistant tuberculosis strains is the main challenge in the battle against this disease. I will mainly focus on cell death mechanisms of host immune cells during bacterial infection. By targeting the key molecules in cell death pathways in the host immune system, I hope to provide new ideas in the treatment of tuberculosis, including multidrug-resistant tuberculosis.

Lucas Ferguson — USA

MPhil Biological Science (Pathology)
St John's College

I attended the Mississippi School for Mathematics and Science (MSMS), Mississippi's premier high school for gifted Mississippian students. During my final semester, my curiosity of infectious disease research led me to participate in MSMS's Research Shadowing Program. Through this, I met Dr. Xiu-Feng (Henry) Wan, a professor at Mississippi State University's (MSU) College of Veterinary Medicine. My semester of shadowing initiated a long time obsession with infectious disease research and virology, which led me to enrol at Mississippi State University to continue working under Dr. Wan. My undergraduate research in Dr. Wan's lab has allowed us to understand some aspects of the epidemiology and pathology of bovine influenza D virus in cattle. During my undergraduate career, I was also able to conduct research in avian immunology in Dr. Yin Li's lab at Jiangsu Academy of Agricultural Sciences in Nanjing, China. While at the University of Cambridge, I will work under Dr. Andrew Firth using bioinformatics to answer questions related to RNA virus evolution. I am excited to engage with my fellow Gates-Cambridge peers and alumni in order to collaborate on infectious disease research.

OUT FROM THE MARGINS

CAROLINE JAMES

Education has traditionally been seen as a route of poverty, but without structural and curriculum change, says Caroline James, it will only perpetuate existing social inequities.

She wants to democratise the education system by bringing in the voices of marginalised young people and she plans to start by doing research on foster children.

She has strong personal reasons for doing so since she herself went through the foster system and got her first taste of teaching at a very early age when she stepped into the educator role for her own siblings.

For her MPhil in Education at Cambridge, Caroline wants to look at how the education system negatively impacts at risk youth, using foster children as a proxy because of her own experience and because research shows consistently that they rank lowest in terms of educational achievement and access to higher education.

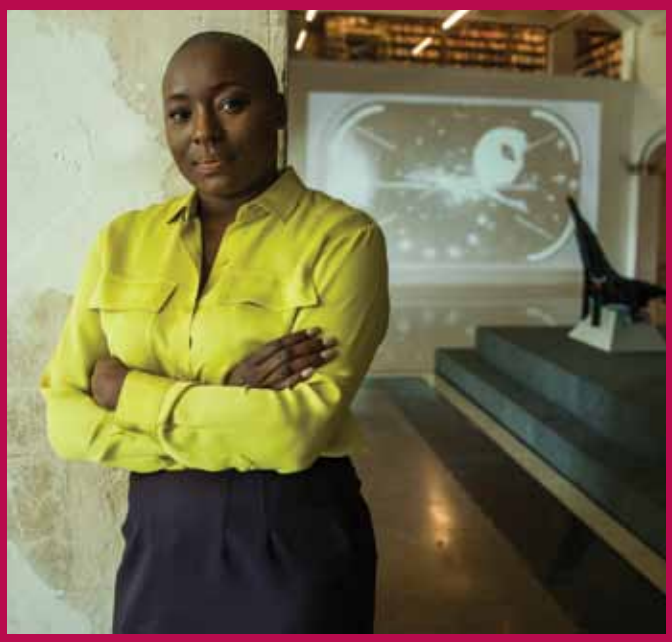
Caroline was born in Chicago and her early years were characterised by abuse and neglect. She lived with her father who was addicted to crack and would be gone for weeks at a time. Her mother, who was also a drug user, left when she was two and Caroline only met her again when she was 16. She and her three younger brothers endured periods of homelessness and often missed large chunks of school.

Caroline was like a mother to her brothers, looking after them, giving them food, getting them to school and teaching herself to read so she could teach them.

At the age of 10 Caroline decided she needed to work with her teachers to advocate for the family to be taken into foster care. The family moved to Alabama, but it was impossible to find a foster family who would take all four children. Caroline wanted the boys to stay together so they could support each other. She felt she was more able to fend for herself, but it was not long before she started to feel lost. In response, she threw herself into the education system. "I felt I had to become someone and not be like my parents. That was all that mattered to me," she says. "I believed that education would allow me to escape the snares of poverty."

She sent to a magnet school, a public school where students have some influence over the curriculum. From there she went to the University of Alabama. Initially she was set on being a lawyer, not a teacher, but Teach for America thought differently and they did all they could to recruit her prior to her senior year.

They flew her to New Orleans where she started teaching and began to see education in a new way. "I could see



the connection between inequity and education. I began to see teachers as activists. Classrooms were where activism was built because teachers could change lives," says Caroline. "I could see that the very fabric of our democracy is built in the classroom."

She began to see that people who had undergone the kind of life experiences she had had a truth of narrative and identity which could make a difference. After doing a teacher training programme for Teach for America over the summer, Caroline was thrown in at the deep end and started to teach. She moved over from teaching to management and managed 60 educators, working on issues such as curriculum change. She won the Sue Lehmann national teaching award from her work to create a curriculum which reflected student culture, interests and identity and tied student leadership with student activism.

Caroline, who was interviewed about her work for CNN, was keen to extend her research on curriculum change and inclusion. She says: "There is such a dearth of research on what foster youth have experienced in education. It's about getting their voices heard in an effort to democratise education," she says. "I believe that schools that function more democratically are better able to meet the needs and desires of marginalised youth. Such democracy could further translate into improved student behaviour, socio-emotional development and academic outcomes."

Elyse Fischer — USA

PhD Biological Science at the MRC Laboratory of Molecular Biology, Churchill College

Across the world from my home on Bainbridge Island, Washington, I studied molecular biology at the University of St Andrews. During my studies, I became fascinated by our ability to infer biological function from a protein's 3D structure, particularly the dramatic mechanical differences caused by subtle conformational changes. After graduating, I wanted to see first-hand how information produced by structural biology could be used in drug design. I was awarded a one-year fellowship at the National Institute of Allergy and Infectious Diseases, where my research involved engineering the cellular targeting mechanism used by anthrax toxin to specifically target tumours. I am honoured to now join the vibrant, diverse and intellectual community that both Gates and Cambridge have to offer. Specifically, I look forward to learning to become an active leader within the scientific community and a role model for women in academia. During my PhD, I will use electron microscopy to investigate the molecular mechanisms of cell cycle inhibition. Such information is important as it provides a framework for designing small molecule inhibitors which induce cell death in tumours.

Anna Forringer-Beal — USA

MPhil Multi-Disciplinary Gender Studies
Darwin College

My undergraduate research at the University of Michigan focused on understanding the experiences of Central American women as they migrated to the United States. While researching at the Undocumented Migration Project, I was able to explore how cultural perceptions of immigration and gender influenced modern policy. I saw how these laws had a direct impact on the women I worked with. This experience pushed me to explore gender and the law further. Specifically, I grew interested in how human trafficking law embeds dominant ideologies about gender, sexuality, and immigration, into legal policy. Working with survivors of trafficking to navigate their recovery at the National Human Trafficking Hotline, has provided me insight into the daily influence these laws have on survivors. As an MPhil student in Multi-disciplinary Gender Studies at Cambridge, I am excited to compare human trafficking policy in the United Kingdom and the United States to better understand their impact. It is my hope that this research can be used to identify preconceived beliefs about trafficking in the law and create policy to better support survivors.

Dylan Gaffney — New Zealand / UK

PhD Archaeology
Magdalene College

I grew up in Dunedin, New Zealand, and completed a BA at the University of Otago in Classical Studies and Anthropology. During this time I developed a passion for archaeology; the famous discoveries at Troy in the Hellespont, the ancient civilisation at Angkor in Southeast Asia, and the remarkable voyages of island navigators into the Pacific thousands of years ago. Following this passion, I undertook my first overseas fieldwork around Madang, northeast New Guinea in 2014. This formed the basis of my MA, which examined archaeological and modern potting traditions in the area. Since then, I have returned to New Guinea each year, working with communities to follow up research in Madang, and also venture into the highland interior to survey and excavate. Over the past year, I have been a Research Coordinator at Southern Pacific Archaeological Research, a research unit at Otago. My Cambridge research will move west, focussing on Indonesia, where I hope to examine some of the earliest dispersals of modern humans into the region. Understanding this deep history has massive implications for the social/life sciences. I hope to produce quality academic research, which is accessible and appealing.

Erica Gaston — USA

PhD Politics and International Studies
Homerton College

While studying at Stanford University and Harvard Law School, I focused on international and national security issues and the implications of security strategies for human rights. After graduation, I set out to put my studies into practice, living or working extensively in Afghanistan, Yemen, Pakistan, Egypt, and other countries. I have seen many examples where international politics gets it right, and whether testifying before the U.S. Senate or NATO about accountability and civilian redress, or working with local partners on conflict resolution and local security solutions, I've had the opportunity to be a part of positive change. But I have also seen the cracks and seams in the system, as I sat with Afghan families abused by local militias, or saw the Arab Spring process in Yemen collapse into renewed conflict. Western policymakers face a dilemma in such situations: leaving a security void in fractured spaces brings heavy risks, both for local civilians and the international community; but often the only actors to fill that void immediately are problematic. My research examines a critical aspect of this problem, exploring whether the control mechanisms that external actors establish when working with local or hybrid security forces can successfully mitigate the risks and costs of doing so. Whether or not such mechanisms work has significant implications for local civilians in an increasing number of areas, and for international security strategy as a whole.

Vera Angela Gui — Sweden

PhD History and Philosophy of Science
Corpus Christi College

Combining my experience with human rights advocacy on China and my academic interest in the intersection of medicine and state socialism in the 20th century, my research focuses on the role of images in Chinese public health campaigns in the Maoist period. After graduating from high school in Sweden, where I was born, I did my undergraduate degree in sociology, and my MA in the history of medicine at the University of Warwick. I hope that this background, in combination with my commitment to issues of human rights in China will result in an exciting, interdisciplinary PhD project which will contribute to not only our understanding of the visual element in science communication and the history of public health in modern China, but also to policy and scholarship tackling China's contemporary public health challenges. I have a keen interest in the history of emotions and the philosophy of science, which I look forward to exploring further in my PhD at Cambridge. I am both humbled and enthusiastic to be joining such a diverse and creative community as Gates Cambridge.

Nathan Hawkins — UK / New Zealand

PhD Philosophy
Gonville and Caius College

I studied a BA with a double major in philosophy and mathematics, as well as an MA and an MPhil in philosophy. As an undergrad I was struck by the way people's metaphysical assumptions were brought to bear on all areas of philosophy; in particular, beliefs regarding the full supervenience of human experience on fundamental physical laws/particles. I found that my philosophical approach was more dialectical; analysing concepts in terms of their relationship with other ideas, and the ways in which they have changed over time. My PhD study at Cambridge will explore this approach further and revolve around the relatively undeveloped idea of metaphysical Monism: a claim that the whole is more fundamental than its parts. This position has gained momentum recently due to physical concepts such as entanglement. However my focus will be on the logical structure that would ground a Monist approach to metaphysics. I will analyse the impact such a change in thought would have on the typical structures of modal logic, and set theory. Structures that were developed in the heyday of Pluralist metaphysics (the contraposition of Monism).

Larry Han* — USA

MPhil Strategy, Marketing and Operations
Gonville and Caius College

As the son of immigrants from China, I had always wanted to reconnect with my roots and study at a Chinese institute of higher learning. Through the Schwarzman Scholars programme, I studied public policy and health economics at Tsinghua University in Beijing, China. Previously, I focused my undergraduate studies in biostatistics and infectious diseases at the University of North Carolina, Chapel Hill. A Morehead-Cain Scholar and Phillips Ambassador, I co-lead an NIH-funded randomised controlled trial to improve sexual health delivery in Guangzhou, China. With support from the Goldwater Scholarship, I completed an honours thesis on the efficacy of the RTS,S malaria vaccine among Malawian children. I am incredibly excited to complete my MPhil through the Judge Business School with Dr. Stefan Scholtes, where I will study healthcare management and hospital reorganisation. In the future, I aim to complete a Doctorate in Biostatistics and collaborate with global institutions to advance the field and develop tools to improve healthcare delivery. My interests include; Golf, basketball, tennis, reading history, debating politics.

*** Deferred from previous year**

Maria Hengeveld — Netherlands

PhD Development Studies
King's College

After working in the private sector for eight years in my native country, I moved to South Africa in my mid-twenties to study sociology and gender studies at the University of Cape Town. This is where I developed my interest in the sociology and politics of international development. A Fulbright fellowship allowed me to take this interest to Columbia University in New York, where I did a Masters in Human Rights. At Columbia, I grew interested in the rise of philanthro-capitalism and the corporate social responsibility (CSR) industry, and the ways in which these industries are linked to and perpetuate systems of power and inequality. My M.A thesis used the feminist philanthropy and humanitarian alliances of the sports giant Nike as a case study to examine the consequences of this trend, a topic I was able to further investigate as a journalist in Vietnam. For this investigation I interviewed 18 Nike workers about their wages and working conditions. These conversations, coupled with other journalistic work and a consultancy project with the International Labour Organization sparked my desire to investigate the CSR industry, particularly its labour dimensions, as a PhD student at Cambridge.

LANGUAGE POLITICS IN PAKISTAN

SARA KAZMI

Like many children in Pakistan, Sara Kazmi was educated in English. In 10th grade, she took part in the production of a play in classical 18th century Punjabi. It got her interested in the issue of language politics and it is an interest which has only grown over time.

Her PhD at the University of Cambridge will focus on contemporary Punjabi writing's search for a radical political subjectivity rooted in the lives and landscape of the people of Punjab.

At the root of her work is a desire to restore the status of Punjabi and to overturn the educational barriers that prevent the poorest from progressing in society. She says: "The marginalisation of Punjabi in Pakistan has led to the marginalisation of a whole section of the population."

Sara was born in the city of Sahiwal in Punjab and did her entire education in English. Urdu and English are the main languages of education in Pakistan, although most of the population, particularly the poorest, speak Punjabi at home. Despite her introduction to the country's linguistic politics at school, it was not until Sara went to university that she became more of an activist.

She studied European and South Asian History and Literature at Lahore University of Management Sciences, but was drawn towards performing. In her second year she joined the independent theatre troupe and literary group Sangat and started performing in Punjabi plays all over Pakistan, including in Lahore's poorest areas as well as more rural areas. She also organised public discussions that explored the relationship between language, culture, politics and social change. "As a member of the upper middle class I was very cocooned. Through the performances we did, I suddenly saw how language differences and hierarchies were perpetuating poverty," she says. She began to realise how language acted as a barrier to education for the poorest, putting them at a disadvantage in the education system. "It opened my eyes," she says.

The problem has been compounded by the fact that Punjabi is now associated with the poorest and least educated and by claims that the language has not evolved sufficiently to suit contemporary needs.

In her second year Sara also started to receive training in Indian classical music to enrich her performance of folk music. She has continued that training over the past seven years. During her course she took a year out to focus on theatre and Punjabi reading, given that Punjabi was not part of the curriculum. She kept studying Punjabi, becoming the first undergraduate student to do so at her college.

After graduating in 2013, Sara applied to the School of Oriental and African Studies in London. Her master's dissertation was a historical analysis of the Punjabi literary movement in 1970s Pakistan and she says she would like to eventually translate it into Punjabi and publish it in Pakistan.

SOAS allowed her to focus on regional language issues. When she returned to Pakistan in 2014, she started teaching Punjabi at an arts college.

Sara also published some academic research on Punjabi poetry and the anti-colonial movement in the early 20th century and volunteered with theatre groups.

She hopes to continue performing Punjabi folk and classical music while at Cambridge. She feels combining teaching and performance is where she can make the most significant contribution to society. Over the summer she has been recording footage of dying performance traditions in Pakistan in collaboration with another academic. The material will be archived online so that it is accessible to all in a user friendly way. She says: "A lot of these traditions are being lost as more and more young people leave the rural areas for the cities, but this is our history and it is important to retain it."

Andre Holzer* — Germany

PhD Plant Sciences
Christ's College

Our world is facing many threats including pollution, climate change, world hunger, etc. It is my conviction that decisive action must be taken in order to influence how the world will change. My passion for natural sciences is a mission to understand nature's bigger concepts, to develop new techniques and helpful applications that will improve the future. I was born in a small town in Germany and have had a strong interest in natural sciences since school. As a BSc and MSc student studying Molecular Biotechnology at Heidelberg University, I gained profound education in the fields of modern life sciences and obtained research experience in the interdisciplinary areas of bioinformatics, biophysics and drug discovery. I conducted diverse studies covering topics such as optical nanoscopy, cancer research, bacterial signalling and algal ecology. Subsequent to our recent discovery of vitamin B12 remodelling in algae, my PhD at Cambridge will continue existing work on algal-bacterial interaction. I aim to improve the understanding of algal metabolism and bacterial signalling in order to gain fundamental insights in B12 cycling, algal-bacterial symbiosis and complex microbial ecosystems which is essential for many biotechnological purposes such as the production of renewable energy sources or B12 supplying medicine.

*** Deferred from previous year**

John Huber — USA

MPhil Veterinary Science
Churchill College

Originally from Gainesville, Florida, I will graduate from the University of Notre Dame in May 2017 with a degree in Applied and Computational Mathematics and Statistics. During my undergraduate education, I developed a strong passion for infectious disease research, which I consider the intersection of my interests in global health, mathematics, and social justice. To date, my research has focused on constructing mathematical models for the transmission of mosquito-borne pathogens, principally malaria and dengue. At Cambridge, I will broaden my research interests by applying mathematical and statistical methods to capture heterogeneity in bacterial division rates. This project will expand our understanding of how antimicrobial resistance arises from slow-replicating bacteria in vivo. At a time when drug resistance is rapidly outpacing the discovery of new antibiotics, I am excited to have the opportunity to contribute to the body of research on such a time-sensitive matter. I feel honoured to join the Gates Cambridge community and look forward to an enriching year at Cambridge in the Department of Veterinary Medicine.

Stefan Hosein* — Trinidad and Tobago

PhD Computer Science
St Catharine's College

I grew up in the small Caribbean island of Trinidad and Tobago, where I graduated with a BSc. in Computer Science. While studying my bachelors, I was unsure of my career path until my first Artificial Intelligence course. I became fascinated with the research area and upon graduation, went to work as an intern in the Data Science Group at NASA Ames Research Center. Also during my bachelors, I volunteered with a group called Coder Dojo which taught programming to children. This experience encouraged me to co-found a non-profit organisation called Escape Velocity, which seeks to inspire underprivileged children in Trinidad to learn about science. My PhD would marry these two areas, meaning that I would be able to help students using Artificial Intelligence methods, specifically Natural Language Processing. My work will help in question answering for online courses and improving the accuracy of different tasks (like named entity recognition, part-of-speech tagging etc.) across multiple different domains.

*** Deferring to 2018**

Caroline James — USA

MPhil Education (Thematic Route)
Christ's College

In undergraduate, I was profiled by CNN; this interview gave me the courage to speak with conviction about my identity and how it relates to my work. I am a foster youth. I am a black woman. I am first-generation. I come to Cambridge not only as an educator but as an activist focused on improving life outcomes for marginalised youth. In New Orleans, LA, I had the privilege to teach. I learned that leading requires learning from those whom you lead. My principal, my students and the community I served, all shaped my perception of education. Together, we developed academic curriculums that reflected student culture, interests and identity. Furthermore, we created an incredible approach to student leadership development. As a result, I won Sue Lehmann, a national teaching award. After leaving the classroom, I moved into teacher leadership development. Through Teach For America, I had the privilege to partner with and manage almost 60 educators. At Cambridge, I will explore research-based methods to democratise education. I believe that schools that function more democratically are better apt to meet the needs and desires of marginalised youth. Such democracy could further translate into improved student behaviour, socio-emotional development, and academic outcomes.

Wanyi Jia — Canada

PhD Clinical Neurosciences
Girton College

I developed a love for neuroscience while studying at Pomona College. Through various research projects, I explored several neurobiology topics during my undergraduate studies. As an HHMI EXROP Scholar, I investigated the neural circuitry of the pain pathway in the spinal cord at Harvard Medical School. During my third year as a visiting student at Oxford, I contributed to the structural discoveries of a novel synaptic formation protein complex involved in autism spectrum disorders and schizophrenia. In my senior thesis, I examined the role of a neuroendocrine enzyme in peripheral ganglion formation at Caltech. As an aspiring neurosurgeon-scientist, I hope to understand the mechanisms of regeneration in the brain after neural damage. While much current research focuses on neurogenesis, to functionally recover the brain after trauma and illness, remyelination is key. In my PhD, I hope to profile neural-glial communication in health and disease and understand the role of myelin using the optic nerve as a model.

Alexander Kim — USA

MPhil Medical Science (CRUKCI)
King's College

My volunteer experience at San Francisco General Hospital largely inspired my decision to pursue medical science and sparked my interest in cancer. Patients often told me about how cancer had devastated their families, and how treatments were out of reach financially. I developed an academic interest in cancer from research talks given at a summer internship, after which I began to realise the rather horrifying prospect of how little we know about cancer. These experiences have driven me to pursue cancer immunology research, which I believe is one of the most promising frontiers for better treatments that utilise the body's own immune defences to fight cancer. At Cambridge, I will study the Hedgehog (Hh) signalling pathway, which is abnormally activated in a number of cancers and has been shown to play a key role in immune responses to cancer. Little is known about how the Hh pathway regulates natural killer (NK) cells, which engage in anti-tumour activity, and understanding the regulation of NK cells could potentially inform novel immunotherapies. I hope to continue to conduct basic research to inform patient-centred therapies and also investigate how therapies can be better distributed to improve patient outcomes around the world. Aside from science, my interests include music, travel, golf, running, and writing.

Sara Kazmi — Pakistan

PhD English
Queens' College

In the 10th grade, I participated in a theatre production of a classical Punjabi epic at my school in Lahore, Pakistan. Since then, my interest in Punjabi literature and passion for performance have grown side by side. As an undergraduate student at the Lahore University of Management Sciences, I majored in History and Literature. While at university, I also developed a keen insight into language politics in Pakistan, where the postcolonial state has suppressed vernacular expression and regional culture. Punjabi's marginalisation in academic discourse and public spaces drew me towards activism, and I began volunteering with an independent theatre troupe and literary group called Sangat. With Sangat, I travelled all over Punjab, organising performances and public discussions that explored the relationship between language, culture, politics and social change. For my MA dissertation at SOAS, I undertook a historical analysis of the Punjabi literary movement in 1970s Pakistan. For my PhD in Criticism and Culture at Cambridge, I aim to explore contemporary Punjabi writings search for a radical political subjectivity rooted in the lives and landscape of the people of Punjab. I have also been training as an Indian classical vocalist for many years, and continue to perform both Punjabi folk and classical music at home and abroad.

Mine Koprulu — Turkey

MPhil Genomic Medicine
Newnham College

At the age of 16, I was accepted to United World Colleges of Atlantic, an institute with a mission to use education as a force to unite people, nations and cultures for world peace and sustainable future. Along with the many community volunteering projects I was involved with while at UWC, academically I became interested in studying disease genetics due to its potential to improve the lives of others. Thus, I have attended UCL to study BSc Human Genetics. During my time at UCL, I worked on investigating a novel trans-ethnic Type 2 diabetes susceptibility loci to understand the underlying genetic mechanism, under supervision of Dr. Maniatis. Through this research project, I have developed an interest on the genetic basis of complex diseases. I particularly want to explore the use of -omics techniques in understanding of complex diseases and their application to personalised medicine. I am looking forward to studying Genomic Medicine at Cambridge, where I will be able to enhance my knowledge and research skills in that area of research. I am also honoured and excited to be a part of the influential Gates Cambridge community and explore the opportunities I will encounter at Cambridge.

AN EARLY START IN NEUROSCIENCE

ANGELA MADIRA

Angela Madira knew from the age of five that she wanted to be a doctor. At the age of seven she had begun to ask questions about how the brain works.

By the age of 12 she was studying Biochemistry at California State University, Los Angeles. And now, at the age of 17, she is doing research in clinical neuroscience and is about to embark on an MPhil in Health, Medicine and Society.

She puts her interest in neuroscience down to childhood curiosity. That led her to study behavioural science at university and to spend a summer at Harvard, doing research in molecular neurobiology. She is now focusing on children's neuroscience and aims to be a paediatric neurosurgeon, but Cambridge will bring a broader, interdisciplinary perspective. "As a doctor," she says,"it is important to know why you are doing what you are doing, to question what medicine is and how it fits into the fabric of society."

Angela was born in Dallas, Texas, and lived there until she was 12 when she started university in California.

Angela was identified as gifted and talented early, in first grade. When she was six and in first grade she went through a rigorous IQ-based assessment to join the LEAP programme for advanced students and stayed on it until she was 12 and at the end of her first year in middle school. The programme was based in her school district where Angela studied with around 20 others students of her age.

Angela says her family placed a big emphasis on education and she grew up surrounded by books. She read Hamlet at the age of 10. For her the LEAP programme was a good fit, enabling her to stretch herself.

She says: "Education was the passion that drove me."

She enjoyed the advanced classes, but by middle school she felt the need to have more freedom and choice in what she did academically. Angela was interviewed to check she had both the academic ability and the emotional maturity to go to college, after which she was admitted to university.

Her whole family moved with her to Los Angeles, including her sister who started attending college at the age of 11.

Angela was set on a career in medicine when she started college. However, she soon became interested in philosophy and historical analysis. She feels it is important that there is a crossover between science and the humanities.

Angela spent her first year at university acclimatising to college life and found the transition to independent study a challenge. She started doing research in behavioural neurobiology in her second year as the only undergraduate on the team. She spent the summer of her third year doing a very competitive internship at Macklis Lab at Harvard as an Amgen Scholar based on the molecular biology of neurodevelopment.

Until recently she has been involved in research based at Children's Hospital Los Angeles under pediatric neurosurgeon Dr Erin Kiehna. She has wanted to work in paediatrics since she was around five years old and has been writing up a clinical case study for an academic journal on a girl who lost her bowel and bladder function. When she was admitted to hospital it was found that the girl had a non-malignant dermoid cyst on the back of her head which was putting pressure on her medulla.

It is the first case of its kind and Angela was able to shadow the neurosurgeon operating on the girl. "I could see how much she interacted with the patient. It was not just about cutting her open. I learned you have to explain what you are doing. It is scary for children and their parents. You have to make sure they understand what the brain scans mean and make clear the risks. And you have to follow up for years afterwards," she says.

That is why Angela believes the MPhil is vital to her development as a doctor as it is not solely science-based and includes wider social issues.

Penina Krieger — USA

MPhil Biological Science (MRC Cognition and Brain Sciences Unit), Jesus College

As an undergraduate at Princeton University, I became interested in computational cognitive neuroscience and conducted independent research on memory and on cognitive control. Through my research and my courses I developed an interest in constraints in central processing capabilities. My research has focused on the computational trade-off of learning and multitasking. At Cambridge as a student in the Cognitive and Brain Sciences Unit, I plan to investigate the effects of lesions on the capacity to allocate and sustain attention. I will research whether attentional deficits are due to over attending and thus an inability to switch attention between tasks or an inability to attend in general. This work has the potential to inform our understanding of the mechanisms of sustaining attention and the mechanisms through which we learn how best to allocate attention. My research also has implications for those with attention deficits.

Andrea Kusec — Canada

PhD Biological Science (MRC Cognition and Brain Sciences Unit), Fitzwilliam College

I became interested in the brain and mind when I was diagnosed with epilepsy at age 13. I pursued a BA in Psychology at Ryerson University, where I additionally became interested in the development and treatment of cognitive biases in mood disorders. While volunteering on the Acquired Brain Injury (ABI) Unit of Toronto Rehabilitation Institute, I developed an interest in designing treatments for cognitive and emotional difficulties in individuals with an ABI that account for their unique impairments. To further my knowledge of ABI, I obtained an MSc in Rehabilitation Science at McMaster University. Many individuals with an ABI experience low mood, but available methods of treating mood disorders such as Cognitive Behavioural Therapy fall short because they rely heavily on domains often compromised in ABI, such as mental flexibility and memory. At the Cognition and Brain Sciences Unit, I will investigate whether depression can be effectively treated in individuals with an ABI by increasing engagement in positive activities, and whether its effectiveness can be enhanced through cognitive training to facilitate planning and engagement in such activities. If effective, this research could influence rehabilitation services worldwide.

Benedek Kruchio — Hungary

PhD Classics
St John's College

Born in Hungary, raised in Austria, and then resident, as a Classics student, in Berlin and in Cambridge, I consider myself multicultural and cosmopolitan in the ancient sense with a civic duty to all places, regardless of borders. During my studies at the University of Vienna and the Humboldt University Berlin, I became increasingly interested in the literature of Late Antiquity, an age which, with its rapid globalisation, religious conflicts, and intricate identity politics shows striking similarities to our era. My doctoral dissertation focuses on Heliodorus' Aethiopica (The Ethiopian Story), the latest ancient Greek novel, which testifies to the cultural complexities of its time: it is a story about race, concealed and unstable identities, sexual and religious purity. My thesis analyses Heliodorus' sophisticated handling of his readers' and characters' states of knowledge and discusses the influence of Late Antiquity's prominent philosophical and religious movements, such as Neoplatonism and Christianity, on his novel under epistemological aspects. Designed as a narrative puzzle, the Aethiopica offers itself to various, often ideologically charged, modes of reading and thereby celebrates Late Antique pluralism. Believing in the transforming power of humanities, I am confident that my work will shed new light on the history of pluralism and thereby promote a respectful approach to diversity, which is a particularly pressing issue of our time.

Rian Lawrence — USA

PhD Earth Sciences
Murray Edwards College

I grew up enjoying the outdoors in my Utah rodeo hometown, which led to pursuing a BSc in Environmental Science at Antioch College in Ohio. Through research experience in aquatic and soil biogeochemical cycles across the U.S.A. and in Ghana, I became interested in the intersection between policy and science internationally. As a result, I obtained an emphasis with my BSc in the Spanish language and worked for the U.S. Department of State in Bolivia, Washington D.C., and Sri Lanka. During my PhD in Earth Sciences, I seek to better understand the relationship between the processes of biologically important nutrient cycles in aquatic systems and climate change. Specifically, I will further examine the interplay of iron and sulfur in producing volatile sulfur gases and methane gas (climatically important gases) in salt marshes. This research contributes to the growing body of knowledge of biogeochemical cycles which can impact human living conditions and health. I am honoured to participate in the Gates Cambridge Programme and be among peers with a similar passion for utilising academic research to protect Earth's health and the well-being of all.

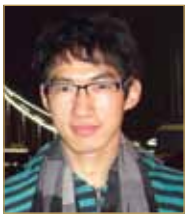
Andrew Lawson — USA

PhD Spanish and Portuguese
Selwyn College

An immersive homestay in Seville catalysed a passion for further study of the languages, cultures and histories of Spain. As an undergraduate at Centre College, I balanced learned classroom knowledge with practical lived experiences in my community. I co-directed an afterschool programme for second language learners, worked at a civic technology company in New York and continued to pursue opportunities to study abroad. Living with Catalan-speaking roommates during my semester at the University of Lleida illuminated many of the ongoing tensions surrounding the Spanish Civil War and Franco dictatorship. What I discovered in Catalonia was affirmed during my year as a Fulbright ETA in Madrid: pedagogical practice itself is contested territory. The material included and excluded, highlighted and hidden, in textbooks has significant influence on the way Spanish students remember their country's violent past. My experiences in Spain animate my PhD dissertation, which is a cultural studies project that examines the politics and policies of pedagogical practice from 1898 to the present. By analysing what and how students are taught, we can understand better the complex nature of contemporary Spanish politics.

Yui Chim Lo — Hong Kong

MPhil Asian and Middle Eastern Studies
Hughes Hall



Anyone who tries to walk on a single leg is sure to stumble, but walking on the two legs of academic studies and societal service enables me to stride forward. Studying History and Chinese at the University of Hong Kong, my undergraduate research deals with the Sino-British negotiations over the future of Hong Kong, an event with profound implications for the lives of generations of Hong Kong people. By using recently declassified British government records, I challenge existing claims regarding the roles of the Governor of Hong Kong and local elites in the fateful negotiations of the 1980s. I have also worked on a public history project to preserve and publicise knowledge about the declining local fishing industry, and have assisted underprivileged children in their studies as a voluntary teacher. In the MPhil Chinese Studies at Cambridge, I will research the history of Hong Kong-Commonwealth relations, thus adding a special perspective to the fields of Hong Kong's and China's foreign relations. I hope to help Hong Kong citizens understand their past and their identities, generate ideas for the future of our city, and encourage my future students to realise their potential and work for the benefit of others. It is definitely my honour to be a member of the Gates Cambridge community. I believe the common experience shared with my peers in the Gates community will empower us to serve people in need with greater ability and commitment.

Andrea Luppi — Italy

MPhil Medical Science (Clinical Neurosciences)
Christ's College

I grew up in a small town halfway between Milan and the Italian Alps, but I earned my BA degree in Psychology and Philosophy (with highest honours) and my MSc in Neuroscience from the University of Oxford, where I was a Clarendon Scholar. I see myself and my work as trying to bridge the gap between mind and matter: my MPhil in Clinical Neurosciences at Cambridge will apply graph-theoretic measures to study the brain's pattern of functional connectivity across multiple states of altered consciousness such as anaesthesia and vegetative state. Ultimately, I would like to develop a unified understanding of how consciousness is lost, and how we can promote its recovery in patients. I am also committed to communicating what we know about the brain and the mind, both across disciplines and to the wider public – especially when such knowledge is relevant for mental health. These issues are still surrounded by misunderstanding and stigma, and I believe that accessible knowledge is the best antidote. I also feel that providing this is one of my responsibilities as a scientist: as part of humanity's quest to gain a more accurate understanding of ourselves and the world we live in, science should not be confined to the lab.

Kerry Mackereth — New Zealand

PhD Multi-disciplinary Gender Studies
Corpus Christi College

I grew up in a number of international contexts, most notably in Sierra Leone during the closing stages of the civil war. In these diverse settings I developed an awareness of the breadth and depth of gender-based injustice. I am dedicated in my academic work and practical activism to fighting sexism, particularly through disrupting the restrictive narratives we tell about masculinity and femininity. My main academic interests lie in the fields of theories of gender and sexuality and critical race theory. Within these areas I focus upon themes such as embodiment, spectacular politics, and the logics of hunger and desire. My PhD in Gender Studies will examine spectacular acts of political violence committed against the self, and the narratives surrounding these acts of political self-sacrifice. I plan to focus on women who undertake such radical acts, with a specific focus on female hunger strikers. My thesis will explore the stories their ravaged bodies tell about politics, and what kinds of stories we tell about these bodies. I am particularly concerned with the powerful role discourse plays in shaping our beliefs about gender and sexuality, as evidenced in the international media's coverage of radical political acts. I hope that my work will challenge these dominant heteronormative discourses and find subversive, alternative readings of female political self-sacrifice.

EMPOWERING YOUNG WOMEN

SANDILE MTETWA

Sandile Mtetwa faced more potential hurdles to her education than many, but she has risen to the challenge.

Sandile, who is from Harare, Zimbabwe, fell pregnant before she started her university studies. She has not only set up a project aimed at empowering other young women, but is also very focused on her studies in Chemistry.

Her master's research will focus on improving the performance of solar-powered energy. Working at the nanoparticle level, she aims to create nanoparticle support-based composites with metal-organic frameworks to boost the lifetime of photo active materials and so increase power generation.

Her interest in clean energy was ignited during her undergraduate studies which took place at a time of frequent power cuts in Zimbabwe.

Sandile is the youngest of four siblings and always had a lot of support for her studies from her parents. Her mother is a teacher and Sandile attended the primary school where she taught. Her father is a publisher and editor and always encouraged her to read.

Sandile went to a selective all girls secondary school in the city centre. She was a good all round student, but excelled in science, particularly maths, and wanted to be doctor and find a cure for TB.

Sandile had applied to the University of Zimbabwe to do veterinary science, but discovered she was pregnant. Although she started her course, she realised it was not what she wanted to study and that she preferred research into potential treatments to the world of hands-on medicine. She took a gap year and began working as a teacher in a local high school to support her daughter before returning to university to do a chemistry degree.

Sandile lived at home during this time and received a lot of support from her parents for which she is very grateful. She faced a lot of abuse and violence from the father of her baby and as a result of that she met other young women in similar situations and wanted to give them the support she had received from her family.

In her third year of undergraduate studies when she was doing an internship at a research institute, she set up the Simuka-Arise Initiative as a university-based community project, meaning she would have access to student volunteers. It is now expanding, moving out of the university and into the community.

The organisation also works with young men who are encouraged to come along and discuss issues and join in campaigns and awareness-raising sessions.

It has three main strands: economic, social and academic empowerment of young women and partners with other organisations to ensure it has a greater impact.

Women and children are either referred to the organisation or come through word of mouth. So far it has raised money to take four children to school, pay for their tuition and ensure they don't have any gaps in their learning.

Sandile is also working on a workshop for girls who have just finished high school and are preparing to go to university. She is keen to encourage more women into science. Other projects include working with the government on women's economic empowerment and providing girls with sanitary products.

At the same time, Sandile has been pursuing her own academic career and in the third year of her chemistry degree, in 2014/2015, she had a lightbulb moment. She was doing a one-year internship at a research institute, working with spectroscopic instruments on the characterisation of polymers and contributing to discussions about future products. Zimbabwe was experiencing a lot of power cuts at the time, so much so that it was being labelled "the dark country". Sandile became interested in research into affordable clean energy.

She graduated in 2016 and has been working as a teaching assistant in the Department of Chemistry at the University of Zimbabwe as well as on the Simuka-Arise Initiative.

Angela Madira — USA

MPhil Health, Medicine and Society
Newnham College

My undergraduate career has led me to a unique journey committed to unlocking the secrets of the human brain while constantly contemplating the meaning of "ethics" in the fields of research and medicine. I have had the opportunity to study neuroscience from a molecular, physiological, and clinical perspective. In the future, I hope to use this knowledge to explore neurological disorders in children. However, I recognise that medicine is an incredibly interdisciplinary field and while I am fortunate enough to have had a science-intensive undergraduate experience, I will use my time at Cambridge to further my understanding. Through the MPhil in Health, Medicine, and Society, I will apply my previous experiences as a researcher while exploring new fields in the philosophy and history of health and medicine. I also hope to gain an international perspective of clinical and laboratory practices. My dissertation will focus on the efficacy and ethics of existing mammalian research models. I hope to target the philosophy of cognitive psychology through the multispecies interactions between humans and animals, particularly scientists and their test subjects. I am beyond grateful to the Gates Cambridge Trust for giving me the opportunity to be a part of a motivated, engaged, and gifted group of scholars and future leaders.

Jason Martins* — Canada

MPhil Energy Technologies
Fitzwilliam College

Scuba diving through reefs affected by coral bleaching in Southeast Asia, I witnessed the downstream consequences of rising carbon dioxide levels in the atmosphere. In between my studies in Chemical Engineering at the University of Toronto, my work experiences in the wastewater, metallurgical, and nuclear energy industries introduced me to problems dealing with the environmental effects of energy production and consumption. Most recently, a fourth-year undergraduate project with industry advisers from NASA exposed me to the possibility of transforming carbon emissions from waste product to valuable resource. Systems capable of capturing, storing, recycling or utilising carbon dioxide have a crucial role to play in the coming decades as a means to mitigate climate change. During my MPhil in Energy Technologies at Cambridge, I plan to explore the host of carbon abatement technologies that will be needed as society transitions towards renewable energy sources. As a Gates Cambridge Scholar, I will seek to apply my research and work to creating a sustainable world for future generations.

*** Deferring to 2018**

Nora Martin — Germany

PhD Physics
Peterhouse

As a Physics undergraduate at the University of Oxford, I became fascinated with applying physical, mathematical and computational methods to biology. One area, where these have already had a big impact, is in our understanding of evolution, and my current research is on modelling evolution in Prof Ard Louis' group in Oxford, where the focus is on studying genotype-phenotype maps as these allow us to model both variation and selection. Last summer, I analysed the properties of the genotype-phenotype map of the model system of biomorphs and I am working on the causes and effects of bursts in the production of alternative phenotypes. At Cambridge, I will join Dr Sebastian Ahnert's group, exploring characteristics of new genotype-phenotype maps and their implications for evolutionary dynamics. My goal is to pursue a career in research: I have gained insights into experimental work in atomic physics, data analysis in astronomy, and computational work in biological physics, not only in the UK, but also as a Hoffleit Scholar at Yale University and at the University of Stuttgart. In addition, I have taught lessons about environmental issues at a school in Oxford and have organised weekly talks as President of the Oxford University Physics Society.

Basira Mir Makhamad* Kyrgyzstan

MPhil Archaeology
Murray Edwards College

My Bachelor Degree is in Anthropology, but from my first year I loved Archaeology. After my first fieldwork when I was a freshman student I decided to be an Archaeologist. Because there are no archaeological schools in Kyrgyzstan, I made a decision to get knowledge through experience; therefore I took part in a number of archaeological expeditions where I had the chance to excavate Palaeolithic, Mesolithic, Bronze Age and Middle Age sites such as Kensai, Aigyrzhal 2, Uch-Kurbu, Chap and Novopokrovka city. As an exchange student at Bard College, I was also involved in archaeological excavations in the USA. I excavated and studied African American, German, Dutch and Native American (Mohawks and Mohicans) settlements. After such great practice I have decided to pay attention to the problems with cultural heritage management in Kyrgyzstan, where the main focus was protection and preservation of Stone Age sites. I am not going to stop, because I want to develop my skills and study more about ancient peoples' lives, cultures and rituals on the territory of Kyrgyzstan and Central Asia through studying Mesolithic and Epi-Palaeolithic sites. I hope that I will be able to know more about archaeological data with help of scientific methods and contribute to the development of archaeological science in Kyrgyzstan.

*** Deferring to 2018**

Christopher Molteno South Africa / Ireland

MPhil Engineering for Sustainable Development
Magdalene College

Energy infrastructure fascinates me. So much of society is built around and is dependent on our energy supply. Over the years, the way we access energy has repeatedly been revolutionised. Now, we are painfully aware that a complete revolution is again necessary. The energy sector of South Africa, my home country, is not only unsustainably dependent on coal but urgently requires expansion to meet rising demand. This gives us a fantastic opportunity to develop our energy sector in a sustainable direction. During my MPhil in Engineering for Sustainable Development at Cambridge I will study the options available to developing countries and how we can implement the necessary changes. I will focus on the decentralisation of energy supply and solar electric power production. The practical aspects of sustainable development that this course teaches will build on the technical knowledge that I have gained through my undergraduate degree in chemical engineering and my professional experience in a small Namibian energy company. It is an exciting and dynamic time that we are living in. I am honoured to be joining the Gates Cambridge community: an inter-disciplinary cohort that are working to make that change positive.

Thierry Mousset* Luxembourg

PhD German
King's College

Born in Luxembourg, I studied political science with a focus on oriental studies and Arabic language at Sciences Po Paris. Passionate about theatre, I worked as an assistant director and dramaturge at the Barbican Centre, La Monnaie Opera House, LOD Muziektheater Ghent and the Grand Theatre de Luxembourg. I did my graduate studies in European and Comparative Literatures with a thesis on W.G. Sebald. My PhD explores the uses of non-dramatic texts by W.G. Sebald, Mathias Enard and Orhan Pamuk in contemporary stage performances. Originally from Germany, France and Turkey, the authors negotiate in their works pressing social, aesthetic and literary issues across borders. I believe that in the current political climate, informed by a rise in anti-muslim and nationalist rhetoric, it is more important than ever to remind ourselves of the shared history of the two sides of the Mediterranean. Despite the distinct cultural contexts, the themes of memory, conflicting identities and forced migration play an equally prominent role both in these authors' fictional and academic writings. Going beyond the field of performance studies, my research will draw on conceptual approaches to post-dramatic theatre, while also engaging with issues of collective memory, digital and post-print environments and Western and Eastern identities.

*** Deferring to 2018**

Sandile Mtetwa Zimbabwe

MPhil Chemistry
Lucy Cavendish College

A passionate young scientist, I attained my degree in Chemistry at the University of Zimbabwe with First Class Honours. My interest in science started at secondary school when I wanted to find a cure for tuberculosis. However, as I grew older, I became interested in renewable energy, particularly solar driven hydrogen evolution where hydrogen can be used as a clean and renewable energy alternative. At Cambridge I will be working on enhancing the properties of stability, performance and tactability of photo active materials used in the photocatalysis process of harnessing clean energy. These photoactive materials as nanoparticles will be used to create nanoparticle support based composites with MOF's. This composite will enhance the charge carrier lifetime of the photoactive nanomaterials thereby increasing power generation, this being highly relevant in the solar energy industry. This work will be my contribution towards the sustainable development goal of energy as well as industry – my goal is to power the world! I am also heavily involved in civic engagement as the Founder of a Trust in Zimbabwe (Simuka-Arise Initiative). The Trust aims to empower young women academically, socially and economically. By being a Gates Scholar, I hope to be an inspiration to women in Africa pursuing science related careers.

A GENDER LENS ON HUMAN RIGHTS VIOLATIONS

MARINA VELICKOVIC

Marina Velickovic is the first Gates Cambridge Scholar from Bosnia and Herzegovina.

Her PhD in Law will build on her work on international criminal law and human rights in the context of the former Yugoslavia.

She will analyse the International Criminal Tribunal for the former Yugoslavia as a site of knowledge production and look at how different narratives are produced there, incorporating Feminist critiques, Critical Legal Studies and Third World Approaches to Law to explore where the blind spots are with relation to gender and ethnicity.

The ICTY claims to be among the first courts of its kind to bring explicit charges of wartime sexual violence and to define gender crimes such as rape and sexual enslavement under customary law. It was also the first international criminal tribunal to enter convictions for rape as a form of torture and for sexual enslavement as crime against humanity.

Marina, who in addition to her studies has founded several feminist platforms in Bosnia, including the only print feminist magazine in the country, has co-authored two books, 1995–2015: Women and Political Life in Post-Dayton Bosnia and Herzegovina and Furam feminizam: Priručnik za djevojčice [a feminism handbook for girls].

She was born in Sarajevo and was just three when the conflict in Bosnia ended. As a young girl she trained as a ballet dancer, practising for hours a day, but when she started high school the routine became too overwhelming. At 14 she became very interested in international criminal law after reading a book on the prevention of genocide.

Her interest in human rights was influenced by what she was seeing around her. "People had faith in international law and human rights, but the system did not seem to be working. I was interested in how international law managed to keep its status as a beacon of hope when it appeared to be failing. I was interested in genocide as it is the biggest, most visible failure in international law," says Marina.

She was accepted onto a Law course at the University of Bristol. Over the course of the degree she did several internships at the UN Development Programme, the International Criminal Tribunal for the Former Yugoslavia and the Office of the High Commissioner for Human Rights.

She also did a series of jobs to earn money to support herself as well as voluntary work for Student Action for Refugees, teaching refugee children English at a primary school in Bristol and then worked as the campaigns coordinator for the organisation. In her final year she was student director of the Bristol Human Rights Clinic, coordinating and doing research on issues such as police brutality.

When she returned to Bosnia she worked for the OHCHR on conflict-related sexual violence and did some gender-based research for an NGO. So when it came to her master's at London School of Economics she chose to focus on feminist critiques of International Law. Her dissertation was an analysis of the Kunarac judgement by the International Criminal Tribunal for the Former Yugoslavia through the lenses of feminist and postcolonial theory.

While at LSE Marina, with a group of other students, worked on LSE's submission to the UN on resolution 1325, which urges all actors to increase the participation of women and incorporate gender perspectives in all United Nations peace and security efforts.

She knew by this stage that she wanted to do a PhD, but she wanted to be sure and to experience the world outside academia. So she worked on several feminist platforms and publications and in 2016 she co-founded a magazine on feminist art and theory called BONA, which brings together emerging feminist writers, artists and journalists.

Since graduating from LSE, Marina has been working as a consultant for Goldsmiths and for LSE. Most recently she was employed as a research associate on the Gender of Justice Project at Goldsmiths, analysing legal material from the International Criminal Tribunal for the Former Yugoslavia.

Dennis Mukuba — Kenya

MPhil Architecture and Urban Studies
St Edmund's College

Three years of post-graduate work involving designing and master-planning new neighbourhoods in Nairobi and its surroundings, I developed a sensitive appreciation of the challenges of peripheral urbanism in sub Saharan cities. My interest is to explore the suitability of design proposals for emerging satellite cities hither; in view of already existing urban challenges ranging from economic (budgetary), infrastructural, environmental, and local urban-planning policy. I am a 29 year old Kenyan designer and architect, alumnus of the University of Nairobi (B.Arch-2013), passionate about great design, to serve precedence in for healthier, conscious developing cities that have greater mobility and productivity. Through the Gates Cambridge scholarship and within the Department of Architecture, I hope to exemplify these emerging urban areas in perspective of other successful satellite cities globally, measured against appropriate planning policy and sustainable domestic economic models. That will be my MPhil Architecture and Urban Studies.

Anna Malaika Ntiriwah Asare — USA / Sweden

PhD Education
King's College

Spending the first half of my life travelling from country to country including Dubai, Estonia, Mexico, Sweden, and Azerbaijan, among others, fostered a deep appreciation in me for the tremendous diversity of the world. However, in every place I noticed the ways in which narratives differed based on the perspective of the storyteller and how the national narrative depended on those with the most power. Studying Medical Anthropology, and Multidisciplinary Gender Studies in my BA and MPhil programmes respectively, in addition to spending my last two years teaching Ethnic Studies to high school students in Stockton, CA, have been a part of my mission to elevate the status of marginalised narratives. As a PhD student in Education at Cambridge, I will focus on the role education has played in suppressing Black women's narratives and how Black women have still thrived in academic spaces despite this challenge. As a Gates scholar I will use this knowledge to facilitate more inclusive learning environments and curricula.

Yaikhomba Mutum — India

PhD Biological Science (MRC Mitochondrial Biology Unit), St John's College

I come from the outskirts of Imphal in Manipur, located in the foothills of the Himalayas. Though serene, it has been a zone of armed conflict for the past 60 years. To escape this, my mother sent me to South India to study and explore the other side of the world. Thus, a constant nostalgia, as well as doing something for my home state, lingers in my thoughts. I joined IISER Pune after high school, exploring world-class science through conferences, seminars and the labs and meeting many outstanding scientists from around the globe. I value the freedom IISER Pune has given me – to imagine, think, question, learn and discuss – a relief from my school times. Here, I have worked on the biology of a chemoreceptor regulating bacterial motility. My aim at Cambridge is to understand the mechanism of active proton transport in Complex I, an enzyme involved in making energy rich ATP molecules. Its dysfunction causes neuromuscular diseases like the Leigh's syndrome. Alongside making discoveries in science, I am keen to meet the Gates Cambridge community to discuss how peace and sustainable development can be initiated in an economically weak region, without compromising the values, culture and livelihood of local people.

Kamal Obbad* — USA / Canada

MPhil Advanced Computer Science
Pembroke College

As an undergraduate at Harvard, I have been fascinated by the intersection of biology and computer science. I am particularly interested in how we can leverage computational techniques to improve patient outcomes. In the future, I hope to help develop novel ways to use personalised genomics and gene expression profiling to build effective treatments for a myriad of diseases.

*** Deferred from previous year**

Elfadil Osman — USA / Sudan

PhD Biochemistry
Christ's College

I was born in Riyadh, Saudi Arabia to Sudanese immigrants. The restrictions of Sharia law made life difficult for my family, and early during my childhood, we sought asylum in the United States. It was with this background I long saw myself becoming an agent of social change through the study of Islamic and Constitutional Law and combating Sharia law. It was not until the end of my high school years that I discovered my passion for science and saw how scientific advancements and discovery can also be used to enact change. Furthermore, I came to appreciate how the emergent properties that make life possible are rooted in biology and chemistry, and they can be systematically studied. While an undergraduate at the University of Maryland, I studied tropical infectious agents, primarily focusing on the parasite responsible for malaria. During this time, I became convinced of the transformative social implications of basic science research. Recently, drug resistance to antimalarials is a growing concern. My Ph.D. will be focused on studying mechanisms of gene regulation in the parasite and, through collaboration with other groups, identifying novel antimalarial targets and developing new antimalarials. I intend, through my work at Cambridge, to contribute to the global effort toward the eradication of malaria.

Sakurako Oyama — Japan

MPhil Applied Biological Anthropology
St John's College

Growing up between Japan and the United States, I have sought to better understand how culture influences our beliefs and behaviours from a young age. Thus, as an undergraduate at Washington University in St. Louis, I decided to study anthropology. During the course of my studies, I became increasingly interested in how sociocultural and political economic environments impact human health. Through subsequent coursework and research in biology, I have become fascinated by the intricacy of gene-environment interactions, particularly given recent advancements in epigenetic research. By studying for an MPhil in Applied Biological Anthropology at Cambridge, I seek to formally integrate my interests in biology and anthropology to explain human variations in disease susceptibility. My ultimate goal is to help eliminate disproportionate disease and mortality burdens in historically disenfranchised communities by charaterising the biological impact of chronic trauma caused by experiences of institutional oppression. I am incredibly thankful to the Gates Cambridge Trust for providing me the opportunity to join a community of scholars from around the world who are passionate about becoming leaders in a diverse range of subjects. I hope that together, we can maximise our collective impact on the world.

Michael Pashkevich Jr. — USA

PhD Zoology
Jesus College

A native of the culturally rich and biodiverse state of Louisiana, I have long cultivated interests in ecology and conservation. I am educated in the Jesuit tradition, which encourages scholars to defend the vulnerable and recognise value in all beings. I manifested this mission in studying the conservation and community ecology of spiders. Spiders are publicly reviled and highly understudied, despite the many beneficent functions they perform in nearly all ecosystems. At Cambridge, I will investigate the functional role of spiders in Southeast Asian oil palm plantations and how riparian margin restoration within plantations affects spider biodiversity and behaviour. As a member of the Insect Ecology Group in the Museum of Zoology, I will encourage the public to develop keen interests in frequently maligned creatures. I endeavour to specifically develop the curiosities of young scholars from backgrounds traditionally underrepresented in the natural sciences. From this PhD research, I seek to advance understandings of spider ecology, the management of biodiversity in tropical agricultural systems, and the public's relationship with historically disfavoured animals.

Kiera Peltz — USA

MPhil Sociology
Murray Edwards College

I am passionate about understanding how we can create happier societies, insofar as I seek to comprehend how our political, economic, and social institutions can be shaped to ensure individuals can pursue happiness. I aspire to advocate for happiness to be a central objective of government and to use happiness research to create public policies. As an undergraduate at Brown University, I developed an independent major in Happiness, which spanned eight fields of study and explored the individual and societal nature of happiness. Coupled with a second major in Political Science, I spent my undergraduate examining the politics of happiness, culminating in a thesis, which analysed why the current policy-making process in the USA does not make people happier. With my MPhil I hope to deepen my understanding of how political and economic institutions impact societal wellbeing. Specifically, I will explore how political and economic institutions exacerbate or minimise status inequality, a key determinant of happiness inequality. By rooting happiness in a sociological context, and thus studying the structural nature of happiness, I hope to leave Cambridge with a more robust understanding of how we can make our environment conducive to the pursuit of happiness.

MAPPING NEW WORLDS

LUIS WELBANKS CAMARENA

An international team of astronomers, led by University of Cambridge researchers, discovered a system of seven potentially habitable planets orbiting a star 39 light years away earlier this year. It was the latest in a string of remarkable recent discoveries of planets outside our own universe which may lead to us finding out sooner rather than later whether we are alone in space.

One person who is seeking to play his part in mapping these discoveries is Luis Welbanks Camarena.

For his PhD he will look to create an atlas of exoplanets, "a genetic tree classifying the different types" based on the planets' chemical composition. He will also explore what the chemicals in the atmosphere surrounding the planets can tell us about their creation and evolution and he will research their biological and geological processes.

As a child living in the outskirts of Mexico City, Luis dreamed of being an inventor and creating things.

His interests were, however, broader than pure science and spanned theatre and history. "History was about who we are from understanding our immediate past," he says, "but physics was about who we are from a more fundamental basis originating in the beginnings of the universe. I wanted to understand where we came from," he says.

When it came to university, he was keen to continue with his dual interests in History and Astrophysics. However, the Mexican system does not allow double majors. So Luis applied to the University of Calgary in Canada. Later, though, he realised that it was better to put all his energies into his passion for science and switched to a double major in Physics and Astrophysics.

Luis' studies were funded by a scholarship, but this was not renewable after the first year and he spent his first summer vacation in limbo waiting to hear about funding for the next year. There were around 10 other Latin American students in the same situation. Only two, including Luis, got funding for the next year. "It felt a bit like the Hunger Games," he says. "We were forced to fight against each other for funding."

Luis and his fellow students felt there needed to be a voice for Latin American students at the University so, at the end of their first year, they started a student organisation to campaign to have Latin America as a main focus in the University's international statement and to argue for more attention to be given to both recruitment and retention of Latin American students.

The group contacted government representatives from Latin America and in the Mexican Foreign Affairs Ministry which eventually resulted in a new scholarship being set up for Mexican engineering students.

The organisation also provided mentoring and tutoring to incoming students facing difficulties adapting to a different educational and cultural context and they set up a Day of the Dead competition which showcased Latin American history and culture in liaison with the Mexican consulate.

He completed his joint degrees in 2015 and started a two-year master's in Astrophysics. At the end of 2015 there was a luminous explosion in the sky which was 200 times brighter than a regular supernova. Luis was fascinated and his master's thesis is an investigation of the physical processes that might have caused this and their chemical signatures. His hypothesis is that the double explosion may have been caused by the explosion of a neutron star, a Quark Nova, following the supernova explosion of a star. Neutron stars are created when giant stars die in supernovas and their cores collapse. A Quark Nova is the explosion of a neutron star into a quark star, a really dense object composed of the smallest particles known to humans, quarks.

Luis had also been developing an interest in exoplanets and how they have formed over the last few years and applied to Cambridge to do a PhD. He says: "We are at the start of a huge wave of discovery. We are as close as we have ever been to finding out if there is life on other planets and whether we are alone or not."

Nicholas Petrie — Australia

PhD Law
Gonville and Caius College

Born and bred in Melbourne, Australia, I have spent my adult life volunteering for organisations that seek to alleviate inequality, discrimination and injustice. Since studying law and later embarking on a legal career, I have sought to combine my passion for social justice with my skills in the law, which has naturally led to an interest in Human Rights Law and International Law. I have worked in organisations that use the law as a tool to redress injustice, including the International Criminal Tribunal for Rwanda and the North Australian Aboriginal Justice Agency. I have also been fortunate enough to learn from incredible lawyers and academics, who have inspired me to pursue a career in Human Rights Law, most notably the Rt Hon Lord Dyson, Master of the Rolls (as he then was) for whom I worked as Judicial Assistant, and the exceptional faculties at the University of Melbourne and the London School of Economics. At Cambridge, I will pursue a PhD in Law that will consider the extent to which the common law protects human rights, across multiple jurisdictions. My research arises in the context of an increased appetite amongst judiciaries and academics in various common law countries for a clearer articulation of the role of the common law in the protection of rights (as compared with international or supranational legal protections).

Nicholas Posegay — USA

PhD Asian and Middle Eastern Studies
Corpus Christi College

As an undergraduate at the University of Chicago, I was drawn to the study of religion as a force for historical change. This interest led to research on the Abrahamic traditions in the Middle East, as well as the languages that are fundamental to those faiths. I completed both a BA and an MA in Middle Eastern Studies at UChicago, with an emphasis on the roles of Arabic, Hebrew, and Aramaic in medieval intellectual history. While pursuing a PhD at Cambridge, my goal is to further investigate the religious and linguistic multiculturalism of the medieval Middle East. In doing so, I hope to promote public knowledge of the unique, cosmopolitan civilisation that produced the foundations of modern Judaeo-Christian and Islamicate society. I believe that by educating people on the oft-overlooked connections between their lives and the historical past, historians can promote the importance of diversity, cultural pluralism, and cooperation for building a peaceful, interconnected world.

Jörn Quent — Germany

PhD Biological Science (MRC Cognition and Brain Sciences Unit), Clare Hall

Functioning memory is one of the most crucial cognitive competences that shape who we as human beings are. This sparks my general interest in (long term) memory. Specifically, I am keen to know what aspects of a situation as well as of the past and future determine what we will remember later. I also want to understand what the mechanism(s) is/are behind this. This knowledge could help to develop interventions for those with problems in that domain. I completed my Bachelors and Masters studies at the Ruhr-University Bochum, Germany, with a semester abroad at the University of Nebraska, Omaha, USA, and a research visit at the University of California – Davis, USA, where I started my Masters project on the tag-and-capture theory as the mechanism behind the memory enhancing effect of post-learning stress and reward anticipation. During my PhD at Cambridge University, UK, at the MRC CBU I plan to study the effect of schema-inconsistency (e.g. evoked by objects at unexpected locations) on memory performance and how this modulatory effect might change in the course of ageing. I am interested to know what forms of memory (e.g. associative or single item memory) are modulated by schema-inconsistency and how brain regions in the medial temporal lobe and medial prefrontal cortex interact in this context.

Rebecca Resnik — USA

MPhil Public Policy
St John's College

In the wake of the attacks of 9/11, I became committed to the idea of government service. For more than ten years, I have served the USA in the Department of Defence and as a Foreign Service Officer at the Department of State. After my degree in international politics and security studies at Georgetown University, I began my career in the world of intelligence, concentrating on counter-terrorism and combating proliferation. In 2010, I transitioned from a job of building walls to a job of building bridges, joining the U.S. diplomatic corps with a focus on public diplomacy. I served as the Press Attaché and Spokesperson at the U.S. Embassy in Algeria, where I designed programmes to counter violent extremism. Following my tour in Algiers, I was posted at the U.S. Embassy in Austria, where I served as Vice Consul and led immigrant and non-immigrant visa operations. I then transferred back to Washington, where I currently serve as the Public Diplomacy Coordinator for Mainland Southeast Asia, developing outreach programmes that promote U.S. Government priorities in the region. I am pursuing a Master's at Cambridge so that, along with my practical experience, I have the academic grounding and tools to shape the policies that I have spent the last decade carrying out.

Chelsie Riche — USA

MPhil African Studies
Newnham College

I grew up in a family compound with 51 relatives in Port-au-Prince, Haiti. One of few in my extended family who could afford an education, my first experience in teaching came when I returned home from school and would teach my cousins the lessons that I learned in class. I came to the United States at the age of 10, so I would have better access to education but even in the U.S. I encountered disparities between lower and upper class neighbourhoods with regards to quality education. As a result, my activism is centred on providing access to education for marginalised communities. At Rutgers University, I received my BSc degree in Africana Studies and History, serving as president of the Galvanizing and Organizing Youth Activism (GOYA) organisation. In Spring 2016, I travelled to Cape Town, South Africa to participate in a service learning programme at Ned Doman High School, collaborating with the University of Cape Town to facilitate college readiness workshops for over 90 learners. The following summer, I served in Washington D.C. as an intern for Senator Cory Booker, working with his Senior Team on Education Policy. At Cambridge, my research will centre on the contemporary student led #FeesMustFall movement in post-apartheid South Africa. My ultimate goal is to obtain a PhD/JD in Education and Law to influence education reform policy.

Colleen Rollins — Canada

PhD Psychiatry
Darwin College

Experiences with the lived effects of psychiatric and neurodegenerative illnesses have largely shaped my curiosity to understand the intricacies of the human brain and aspiration to help those who suffer from insults to its fragility. As a Neuroscience undergraduate student at McGill University, I became involved in research ranging from brain plasticity, to Alzheimer's disease, to computational genetics, to factors influencing the etiology of schizophrenia. Particularly, I developed an interest in using computational tools to characterise and quantify alterations in brain anatomy related to different disorders of the brain. At Cambridge, I will pursue a PhD in Psychiatry, with a focus on using a multimodal approach combining brain structural and functional data and cognitive measures to explore the neural mechanisms for the manifestation of hallucinations in schizophrenia. An understanding of the phenomenon of hallucinations has far-reaching implications for treatment strategies, commonalities between disorders, and insights into the nature of consciousness. Due to the inseparable integration of clinical observations and scientific questions, I ultimately hope to complete a medical degree with the overarching goal of translating neuroimaging findings into clinical practice. Academics aside, I practice acroyoga, rock climbing, and figure drawing.

Katherine Robinson — USA

PhD English
Pembroke College

My interest in mythology grew out of time I spent volunteering at a Shetland marine mammal sanctuary after graduating from Amherst College. Folklore I learned showed me how mythological and folk traditions act as frameworks for understanding our relationship to nature and wildlife. This interest has fuelled my research and writing, particularly how poetry both represents and forges connections to the land around us. At Cambridge, I will explore how Ted Hughes repurposed and retold early Celtic mythology in his poetry, and I will also chart connections between Ted Hughes's mythic and personal poetry. Finding metaphors for personal experience within mythic narratives, rife with shape shifting and magical apparitions is, I believe, a way to examine literature's transformative potential. Mythology brims with quests to rid the land of curses to make fields prosperous again – and I am interested in how Ted Hughes used mythic traditions as templates for writing about our need to preserve the natural world. While studying an MFA in poetry at Johns Hopkins University, I began writing poems inspired by my work with marine mammals and studies of folklore. Since graduation, I have been teaching and working on a novel centred around the history of Shetland's Antarctic whaling.

Ria Roy — South Korea / India

PhD Asian and Middle Eastern Studies
Selwyn College

I was born of an Indian father and a Korean mother in Seoul, Korea and grew up speaking three languages – Korean, English and Bengali – frequently visiting India. This experience exposed me to strikingly different cultures and styles of thought and meant that, although I was a native Korean speaker imbued with Korean culture, I was able to look at my society as an outsider, making me sensitive to the role that representations of national identity play in politics. During my undergraduate studies at Waseda University, Japan, I learnt Japanese and also developed an academic interest in studying representations, North Korea, and East Asian history. For my MA at Harvard University, I examined the interaction of aesthetics, politics, language and literature in North Korea, focusing on the funeral of the North Korean leader, Kim Jong-il. With my PhD, I am eager to delve deeper into the question of the manufacture of charisma in North Korea and to trace its transformation from a state committed to Marxist-Leninist views to one that propagates a semi-mystical view of leadership. I hope to put my work on political representations in Asia into a broader context and so help provide knowledge for the benefit of people everywhere.

STANDING UP FOR NATIVE AMERICANS

MONTANA DUKE WILSON

Montana Duke Wilson was raised on politics. Growing up on the Fort Peck Indian Reservation, which is home to the Assiniboine and Sioux tribes, his grandfather Ray K. Eder served on the Tribal Executive Board for 24 years. He also served as both Vice Chairman and Chairman of the Fort Peck Tribes, the head of the tribal government.

At high school in Wolf Point, Montana excelled in science and was a finalist three times in the Intel International Science and Engineering Fair. So when he enrolled at Dartmouth College as a Gates Millennium Scholar in 2009, he initially intended to study Engineering, but he changed his mind in his second year.

Over the summer of 2010 he worked as an Assistant Secretary for the Fort Peck Tribes. One project he worked on involved tackling a suicide epidemic among young people on the reservation. Out of a population of 12,000, there were 25 suicides of young people in one month alone.

The epidemic corresponded to high general levels of suicide among Native American populations. Montana says the situation on his reservation in the summer of 2010 demanded drastic action, including criminalising suicide and limiting traditional tributes to those who died to discourage copycat deaths.

The measures were effective. The number of suicides dropped to 10 a month by the following month and a couple of months later when Montana left to return to college there had been no suicides in the preceding month. The experience brought home to Montana what an impact he could have in the policy area.

He switched his degree to Government and entered the Central Intelligence Agency's Pathways programme, a government programme established to give students an opportunity to explore federal careers.

Before completing his degree, however, Montana had to take leave from the College for personal reasons. While he was on leave, he was exposed to another aspect of community life which was to have a big influence on his career trajectory.

Montana became more active in his tribe and was offered a job as an intern at the public defender's office. He had taken some law classes at Dartmouth so was able to write briefs. He took his tribal bar exam and was admitted as a full member of the tribal bar which meant he could practice on his own. Eventually, he was contacted by the Chairman of the Fort Peck tribes and was offered the post of supervising prosecutor,

overseeing criminal prosecutions and juvenile cases. The huge number of cases he handled covered everything from traffic violations to murder.

Montana worked with the FBI and state law enforcement on a multi-disciplinary team to get crime levels down and succeeded in reducing the annual caseload by about 2,000. During his time as a prosecutor, Montana realised he did not want to return to Dartmouth College and instead transferred his credits to Montana State University.

There Montana found that he needed to take an Economics class to qualify for his degree in Political Science. He discovered he enjoyed Economics so he decided to pursue a second degree that runs alongside his degree in Political Science and minor in Native American Studies. This has meant that he can apply what he learns about indigenous methods and understanding to his other studies.

For his final year – 2016/17 – Montana won the Udall Scholarship in the field of tribal public policy based on his work in tribal economic development. Montana is now working on a cost benefits analysis of treatment courts for drug offenders, relative to incarcerating these offenders.

Montana, who will do an MPhil in Development Studies, is the first Native American Gates Cambridge Scholar. He then intends to return to his tribe to work on economic development issues.

Hayk Saribekyan — Armenia

PhD Computer Science
St John's College

I grew up in a village not far from the capital of Armenia, Yerevan. At the age of ten, my parents transferred me to one of the best schools in the country – Quantum, where I was given many opportunities to go beyond the normal classwork. I developed a great interest in computer science and mathematics, and participated in numerous science competitions. The highly motivating environment in school helped me to eventually start an undergraduate degree at MIT. I immediately chose to study my favourite subject: computer science. Besides my own studies, I have always been interested in teaching myself. At MIT through the Global Teaching Labs programme, I taught a month-long computer science course in a high school in Italy. Two years after that we were able to bring the programme to my home country, Armenia, where I also taught. In the last two years at MIT, I was involved in research in computational connectomics, a branch of neuroscience that aim to understand the low level structure of the brain and how it "computes." I am excited to undertake doctoral studies in Computer Science at the University of Cambridge, explore what are the limits of randomised distributed computation models, and how we can use distributed computing to model natural processes.

Sahba Seddighi — Iran / USA

MPhil Epidemiology
King's College

As an undergraduate at the University of Tennessee, I completed a self-designed course of study in Neuroplasticity and Neurodegenerative Disorders, drawing upon insights from numerous disciplines to better understand mechanisms of resilience in the nervous system during aging and disease. Through exposures in the laboratory, community, and clinical settings, I became increasingly interested in factors that influence vulnerability to age and disease- associated cognitive decline, particularly in the context of Alzheimer's disease. Since graduating, I have continued to pursue this line of research at the NIH National Institute on Aging by using data from large-scale, longitudinal studies of aging to identify novel risk factors and biomarkers of Alzheimer's disease. At the University of Cambridge, I will complete an MPhil in Epidemiology to gain a strong foundation in epidemiological concepts, data appraisal, and biostatistics, while applying this knowledge in the context of population-based studies to better characterise the preclinical stages of Alzheimer's disease. I hope this research will ultimately lead to the development of more accurate diagnostic and prognostic tools, as well as novel targets for disease-modifying interventions to help alter the trajectory of this growing global health concern.

Alexandru Savu — Romania

PhD Economics
Fitzwilliam College

In my Economics PhD endeavour, I am interested in understanding the social and economic causes and consequences of the so-called medical brain drain phenomenon, with which a lot of countries, especially developing ones, are confronted. Doing so will hopefully allow us to better understand to what extent local policies targeted at limiting brain drain can prove either beneficial or detrimental and, thus, act accordingly in the future. This has always been a topic of great interest for me. In my home country of Romania, medical brain drain has long been a key issue of political and intellectual debate, particularly since the country's ascension to the European Union in 2007. In the future, using the knowledge and expertise that I will develop in my doctoral studies, I wish to take initiative in this domain and hopefully make a difference for the better!
It is a great honour to join the prestigious Gates Cambridge community of scholars. Having already pursued a Master's Degree in Cambridge, I have become accustomed with the great energy and passion with which academics here conduct their research. I am extremely grateful to be able to continue this journey!

Antranik Sefilian — Lebanon

PhD Applied Mathematics and Theoretical Physics
Darwin College

As a student in my hometown, Beirut, I was fascinated by the power of physics. This amazement and my childhood fascination with space, led me to pursue a BSc in Physics at the Lebanese University with the goal of being an astrophysicist. Being of Armenian descendant and appreciating the importance of transmitting a craft from one generation to another, I developed a strong will to become a professor for the coming generation; to serve my community academically. This, along with my goal of becoming a productive member of the research community, drove me to continue my studies at the American University of Beirut (AUB). During my MSc at AUB, I strengthened my knowledge in the field of planetary dynamics/ formation, and engaged in original research under the supervision of Prof. Jihad Touma, who also taught me about the ethics of research and the responsibilities of a professor. I developed these skills further by serving as a lab instructor at AUB and the Lebanese American University. At Cambridge, I will carry out further research to understand the conditions necessary for planetesimal growth within and around binary stars. This study will greatly advance our understanding of the origin of exoplanets in stars of higher multiplicity.

Simone Seiver — USA / Portugal

MPhil Criminology
Newnham College

As an undergraduate studying for the simultaneous award of my Bachelors and Masters in Political Science at Yale University, I focused on the design and analysis of randomised experiments, particularly in application to the American legal system. I believe that empirical research should drive policy solutions for criminal justice challenges. While living and studying in New Haven, I co-founded Connecticut's first-ever charitable bail fund. We promote racial and economic justice in the pre-trial system by providing direct bail assistance to indigent defendants who would otherwise be held in jail. This intervention prevents the presumptively innocent from losing their homes, jobs, and families while incarcerated pre-trial. At Cambridge, I will use experimental methodologies to test the intuition that pre-trial detention negatively impacts defendants. While I am interested in social scientific evidence, I also believe in the power of storytelling to enlighten and persuade. I have worked as a journalist, writing and reporting on legal issues for news outlets. Criminal justice systems benefit from increased transparency through a union of empirical and testimonial knowledge. I'm honoured to be joining the Gates Cambridge community and look forward to the myriad discoveries of my peers.

Noor Shahzad* — Pakistan

PhD History
Lucy Cavendish College

I am broadly interested in literary cultures, reading practices and the conditions in which texts are consumed and circulated. My undergraduate research at Lahore University of Management Sciences has focused on the affective space that Urdu women's digests provide to women. Through an MPhil in Modern South Asian Studies I look forward to further investigating these digests. My research aims to examine the continuities and discontinuities in discourses on women's reform in Urdu literature. I am deeply honoured to be joining the Gates Cambridge community and look forward to learning from and contributing to such a diverse group of scholars.

*** Deferring to 2018**

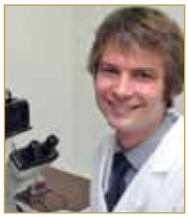
Amarynth Sichel — USA

MPhil Planning, Growth, and Regeneration
Clare College

As a Luce Scholar working for Seoul Metropolitan Government, I saw first-hand the important role that cities play in addressing world-scale problems. Helping Seoul share policy solutions with urban centres across Asia, I realised that as urbanisation continues, the ways in which cities address issues like rising inequality will increasingly shape global society. Cities, which generate around 80 percent of global GDP, can be powerful drivers of economic growth. However, urban policies that prioritise the economy, without considering the environment or the distinct needs of women and other historically disadvantaged groups, can exacerbate inequality. Prior to moving to South Korea, I worked for four years in Boston in government relations consulting and the law. Pursuing an MPhil in Planning, Growth and Regeneration at Cambridge, I hope to build on my work experience, further developing the knowledge and practical skills necessary to help create inclusive and sustainable cities.

Grant Simpson — USA

MPhil Chemistry
Christ's College



I graduated from the University of Florida with highest honours and the equivalent of class valedictorian. There, I completed my B.S. degree double majoring in Chemistry; and Cognitive and Behavioural Neuroscience; and minoring in Philosophy. My previous research involvements have varied widely, ranging from healthcare disparities to behavioural neuroscience to stem cell biology to synthetic chemistry and pharmacology. I ultimately gravitated towards chemistry because I saw the unique power chemists possess to develop novel therapies and therefore profoundly improve an indefinite number of lives. At Cambridge I will be working in the Goncalo Bernardes research group with the aim of developing new, more selective cancer therapeutics. In this project, we have chosen a bold and innovative approach of using quadruple helical DNA structures as platforms to hold both cancer-targeting antibodies and cancer-cell-killing drugs. Further, I will develop synthetic methods to chemically link these different classes of biomolecules (i.e., DNA and protein). With these novel and beautiful structures, we hope to circumvent the poor efficacy and terrible side effects of current, standard-of-care chemotherapy and increase the therapeutic utility of first generation antibody-drug conjugates, with the ultimate goal improving human life and patient outcomes.

EDUCATION FOR CHANGE

NORMAN WRAY

Norman Wray has been at the centre of Ecuador's political events for the last decade or more and stood as a candidate in the most recent presidential elections.

After years of political tumult, he now wants to take some time to think more deeply about the best way of achieving the goals that he has spent his life campaigning for.

His MPhil in Conservation Leadership dovetails with the Buen Vivir philosophy which proposes an alternative form of development for Ecuador, based on the rights of nature and rooted in the country's indigenous populations.

He did his undergraduate degree in Law and his thesis focused on the enforceability of social and cultural rights. It was based on work he had been doing on research projects with indigenous communities in the Amazon region which aimed to find mediation tools to solve conflicts in the region between individual rights and traditional justice.

Norman then became involved with the Frente de Defensa de la Amazonia, a social movement which focuses on regional, national and global environmental and collective rights in the Ecuadorian Amazon.

On graduating Norman started working on the rights of children and adolescents and of women as the national coordinator of a programme to promote community defenders. His work focused on improving the skills of mothers from disadvantaged rural towns and urban neighbourhoods with the aim of strengthening their communities, preventing abuse and giving them a political voice.

In 2004, he was one of the founding members of the Ruptura de los 25 which formed part of the movement which brought down President Lucio Gutierrez's government. The movement was a founding partner of the left-wing Alianza PAIS coalition which brought Rafael Correa to power in 2006.

Alianza PAIS sought to move away from Ecuador's neoliberal economic model by reducing the influence of the World Bank and International Monetary Fund and to promote sustainable development and the Buen Vivir philosophy.

Norman was appointed political adviser to the Ministry of Defence in 2007. A year later he was elected to the National Constituent Assembly, set up by the government to draft the 2008 Constitution of Ecuador and was one of the biggest promoters of Buen Vivir.

Norman spent nine months in the Constituent Assembly which acted as a transitional government and then he stood for election for the Metropolitan Council of Quito where he stayed for three years.

In 2011 Ruptura 25 distanced itself from President Correa's government and set itself up as a national political movement so that it could take part in the general election of 2013. Norman was chosen as the party's presidential candidate.

Norman won 1.31% of the vote and, due to changes in the election rules, which are still being contested, the movement disappeared.

After the election, he found it difficult to get a job. Eventually, the family moved to the Galapagos where Norman was appointed legal adviser to the Consejo Nacional of Ecuador's judicial system.

He then became programme manager of the Galapagos' conservation programme and spent the next two years working on issues such as management of Ecuador's national parks and the Galapagos' agricultural framework.

Having experience the maelstrom of political activism, he is keen to look at the deeper issues of how you convert sustainable development policies into action. He says: "Law by itself does not bring justice. There needs to be a more profound understanding of the issues, a realisation that we are all responsible. That is the role of education. Education is a political process."

Alicia Stevens — USA

PhD Archaeology
Jesus College

Believing that engagement is more effective than embargo, I travelled to Myanmar (Burma) under military rule and international sanctions to promote the protection of the country's natural and cultural resources, working for the American Museum of Natural History and in collaboration with the United Nations Office of the Secretary-General. My PhD work in Archaeological Heritage and Museums looks at differing discourses of cultural heritage in Myanmar after sanctions and what they tell us about community uses of heritage in recovery, identity, and remembrance. My research also examines international interventions in Myanmar's vulnerable post-sanctions period, where decisions about cultural heritage preservation and protection are taking place amidst pressure for rapid economic development. The PhD builds on my MPhil dissertation on the role of museums in cultural diplomacy and political action. Two decades of museum experience – at the Smithsonian Institution in Washington, D.C. and the American Museum of Natural History in New York – and museum-related travel to 100+ countries, inform my work. I believe that collaboration with the Gates Cambridge community will ultimately benefit the people of Myanmar at this significant moment in their history.

Benjamin Teasdale — USA

MPhil Health, Medicine and Society
Darwin College

As an undergraduate, I majored in Biochemistry and wrote my thesis in the Department of Pathology at the University of Vermont. There, the interdisciplinary curriculum of the Honours College helped to channel my interests in medicine that lay outside of the biomedical sciences. In becoming involved with health access initiatives, I gained an appreciation for how social science disciplines can inform healthcare policy and practice. History, anthropology, philosophy and sociology all have an amazing intellectual power to describe and contextualise issues in health and medicine, but there is often a decades-long lapse between what is written about and what is practiced. In order to address the social injustices and inequalities that persist in our current healthcare system, I believe the everyday practice of medicine must be directly informed by rigorous engagement with social science research. During my MPhil in Health, Medicine and Society, I hope to both develop a professional competency with the conversations in this field and work to translate this expertise into my future medical practice. And, through continuous advocacy, I seek to integrate these developments into healthcare systems.

Mayra Tenorio Lopez — Mexico

MPhil Multi-Disciplinary Gender Studies
Newnham College

Women in Mexico and across the border in the U.S raised me. From a young age I saw how gender inequality both limited their lives and increased their susceptibility to violence. Thus, the eradication of gender stratification is the focus of my research and the driving force behind my activism with women and girls. At Swarthmore College I studied Sociology & Anthropology and completed two research projects trying to understand the inconspicuous ways in which gender inequality persists and adapts. After graduation, I documented women's stories of survival and collaborated with female-led grassroots movements in nine countries as a Thomas J. Watson Fellow. Women's stories of resilience and hope affirmed my commitment to produce knowledge that centres the experiences of women of colour, and to support efforts that intervene in the normalisation of violence against women. My research at Cambridge will explore the creation of corporeal responses to violence and collective resistance with other women from the perspective of indigenous women in Guatemala. As an aspiring feminist scholar in the social sciences, my studies will prepare me to engage rigorously with the challenges posed by gender inequality.

Natasha Turkmani — USA

MPhil Energy Technologies
Churchill College

Through my travel experiences in Romania and Southeast Asia, I realised how the environment critically determines human development conditions, such as health, safety, and economy. My passion for climate change mitigation motivated me to study Civil & Environmental Engineering at Princeton University, where I quickly recognised the multitudinous benefits of renewable energy solutions. During my summer internship at the World Bank, I discovered how clean energy could help low income countries become energy independent, improve human quality of life, and reduce global carbon emissions. As an MPhil in Energy Technologies at Cambridge, I seek to address the trade-offs of deploying bioenergy in the transport sector, investigated through the lens of environmental sustainability and energy efficiency. I am honoured to be joining the community of Gates Cambridge scholars and look forward to exploring the applications of energy technologies towards global development.

Jessica Van Meir — USA / Switzerland

MPhil Development Studies
Pembroke College

As an undergraduate at Duke University majoring in Public Policy and minoring in Psychology and Gender, Sexuality, and Feminist Studies, I have focused on using policy for the advancement of gender equality, whether through combatting campus sexual assault, advocating for transgender rights in Ecuador, or increasing menstrual product access for girls and women in Kenya and the US. I recently completed my honours thesis on sex work in Ecuador and Argentina, examining the importance of physical workspaces to sex workers' conditions and how states regulate sex work space. Through the MPhil in Development Studies at Cambridge, I plan to further study how states and citizens negotiate space in cities and explore methods for combatting poverty in Latin America and sub-Saharan Africa. I am honoured to have been selected to become a member of the Gates-Cambridge community.

Luis Welbanks Camarena — Mexico

PhD Astronomy
Churchill College

My experience in life taught me not to conform with stereotypes imposed by those in power. I see science as the means to take down the walls built by those trying to divide us, empower people to make informed decisions and appreciate that all lives have equal value. My passion for science transformed into a deep curiosity to understand our universe and the conditions that allowed for our existence. My desire to understand the world took me from Mexico to Canada, where I became the first person at the University of Calgary to finish two majors in physics and astrophysics in four years. Later, I joined Dr. Rachid Ouyed and his group to study the Quark Nova, its astronomical signatures and implications. At Cambridge, I am honoured to join Dr. Nikku Madhusudhan and his group in studying and characterising the atmospheres of exoplanets. We are as close as we have ever been to understanding our place in the universe and the uniqueness of our existence. The quest for habitable planets thrills me and I believe that this excitement is shared with the rest of humanity. My path to becoming a Gates Cambridge scholar has not been linear and I owe a large amount of gratitude to those who believed in me. I hope to inspire others to pursue their goals and create scientific opportunities in Latin America.

Marina Velickovic — Bosnia and Herzegovina

PhD Law
Pembroke College

My interest in International Criminal Law as a field of study grew out of the internship I did at the ICTY, during my second year at the University of Bristol. I was fascinated by the discrepancies in practice of International Criminal Law and what I was being taught. I wanted to further explore this during my LLM at the LSE, where I researched how the ICTY produces a narrative about Bosnia as a gendered and ethnicised other. Since graduating from the LSE I have co-authored two books and co-founded the only feminist magazine in Bosnia. I am currently a Visiting Fellow at Goldsmiths College, where I am working on a feminist critique of the legal discourse surrounding Conflict-Related Sexual Violence. At Cambridge my research will explore ICL as a site of knowledge production through the prisms of Critical Legal Studies, Feminist Legal Scholarship and Third World Approaches to Law. This research is important because it will not merely explore how the ICTY produces knowledges about Bosnia that are ethnicised and gendered, but also at how these knowledges (and the process of their production) produce a certain truth about the wider project of International Criminal Law (ICL). I will seek to explore to what extent the very survival of ICL is contingent on the ascendance of particularly gendered and ethnicised knowledges to the status of truth.

Rachel Wible — USA

MPhil Nuclear Energy
Darwin College

I received my Bachelors of Science in Mechanical Engineering from the United States Naval Academy. While at the Academy, I quickly became accustomed to the discipline of a military lifestyle and was introduced to the technical advances of the US submarine force. I was intrigued by the way the US Submarine force uses nuclear energy to power their vessels. This programme paved the way for safe and reliable nuclear power and quickly sparked my interest in nuclear engineering. While at Cambridge, I will be studying for an MPhil in Nuclear Energy. Currently, conventional reactors produce large amounts of radioactive waste that can be harnessed for future power production. I intend to research the next generation of nuclear reactors and their ability to utilise this spent fuel discarded from our current reactors. I recognise that our world must soon find a resource for clean energy, and I believe it can be found in nuclear power. The technical expertise from this degree alongside my future service in the military places me in a unique position to aid the nuclear community's efforts to more effectively utilise power from all nuclear sources. I look forward to pursing my passion at Cambridge through the Gates Scholars Programme.

Sophie Wilkowske — USA

MPhil Political Thought and Intellectual History
King's College

I grew up in northern Minnesota and moved to New York City to study at Columbia University. At Columbia, I started out as an economics major but became interested in the history of economic and political ideas and their complex, important legacies. Now, I study history and am lucky to have been taught by brilliant professors across disciplines who push me to do academic work that is honest, critical, and useful. My thesis research, centred on the household account books of a woman in suburban New York in the 1920s, analyses the intellectual, moral, and cultural dimensions of everyday economic life and record-keeping. Outside of the classroom, I have been involved in campus journalism and magazine publishing for the last four years. A semester working at the American Civil Liberties Union strengthened my commitment to advocating for speech, privacy, and technology rights. Over the summer, I taught political philosophy to high school students who made familiar texts new again with their insights and questions. Through teaching and learning with them, I developed my dissertation research for an MPhil in Political Thought and Intellectual History, which traces the rhetorical and conceptual role of children in early modern economic theory.

Charlotte Williams — USA

MPhil Archaeology
Trinity College

Before freshman year, I participated in Princeton University's Bridge Year Programme in Urubamba, Peru. I shadowed a group of archaeologists from the Ministry of Culture seeking to protect Inca terraces from both tourists and local farmers alike. This paradox revealed to me the complicated mechanics of heritage; like museum displays with transparent glass, objects and sites are also encapsulated in political motives and legal decrees that remain publicly invisible. These questions motivated me to pursue Anthropology, with certificates in Archaeology, Latin American Studies, and Urban Studies. Through internships at the Penn Museum of Anthropology and Archaeology and the Metropolitan Museum of Art, I learned more about ways to display history and the complications that arise in doing so. With a research grant I travelled to Peru to explore the aftermath of Yale's return of artefacts to Cusco after their removal from Machu Picchu in 1911. My research analyses a new collaborative museum between Yale and the Ministry of Culture, and to unravel the forces that dictate how the story of the artefacts is told. I hope to better comprehend how heritage politics function in museum practice, and to broaden my understanding of the role of museums both past and present in shaping public perceptions of culture.

Montana Wilson — USA

MPhil Development Studies
Queens' College

I am an enrolled member of the Gros Ventre tribe of the Fort Belknap Indian Reservation and a descendent of the Assiniboine and Sioux tribes of the Fort Peck Indian Reservation. Prior to receiving my bachelor degrees, BA in Political Science, a BS in Economics, and a minor in Native American Studies from Montana State University, I held commissions as a criminal prosecutor and public defender for the Fort Peck Tribes. My education focuses on governing institutions, most notably tribal governments, and how an individual's decision affects economic development policies. During my undergraduate career, I served as a peer instructor for NASX 497: Study in Federal Indian Law & Policy for the MSU Department of Native American Studies. Furthermore, I served as a research assistant and peer instructor for ECNS 105: The Study in the Economic Way of Thinking and ECNS 206: The Study in the Principles of Macroeconomics for the MSU Department of Agricultural Economics & Economics. In 2016, I was awarded the national Udall Scholarship in the field of tribal public policy for work on tribal economic development and upon the completion of my MPhil, I plan to return to my reservation to pursue a career in economic development for my tribes.

Norman Wray* — Ecuador

MPhil Conservation Leadership
Darwin College

As a Constituent Assembly Member I was a strong promoter for the Buen Vivir (Good Living) regime, rights of nature and for including water as a human right in the Constitution of Ecuador. Ten years have passed since the Constitution change was approved but the answers of what to do to put it into practice are still in construction. I define myself as a politician, not necessarily based only on the idea of power searching but under the perspective that the world needs to build strong speech and practice about environment, sustainability and conservation with people, promoting advocacy and organising them for the defence of their rights and the rights of nature. We need to evidence that having a nature based approach for the resolution of our social, economic, ecologically and political problems, could really improve our lives and the survival options of human kind. We have the opportunity and the responsibility, with a strong political-science based approach, to confront some of our national and global leaders that are taking dangerous, sceptical positions on climate change. I believe that having the opportunity to research and share these questions through my MPhil and with the Gates Cambridge community is a unique chance to try to build answers and strategies.

*** Deferring to 2018**

Liangliang Zhang — China

PhD Social Anthropology
King's College

I was born in Inner Mongolia and raised in the beautiful coastal city of Zhuhai in Southern China. During my high school and undergraduate education abroad, I encountered diverse forms of living and ways of knowing the world, which inspired my passion for anthropology. Upon graduating from Duke University with a degree in International Comparative Studies, I took an internship at the International Organisation for Migration in Geneva, Switzerland. This exposure to global governance taught me the significance of employing diversified value systems and metrics for progress. Through these experiences, I have become convinced of anthropology's important role in informing situated policy by sharing localised knowledge and worldviews. My PhD project will examine how citizens of diverse backgrounds engage with revived Daoist spiritual and bodily self-cultivation practices to respond to China's shifting socio-political landscape. Insights into the motivations and objectives of the lay Daoist adherents nonmaterial pursuits can inform social policy making in China and potentially in other societies undergoing rapid transformations. I am honoured to be joining the Gates Cambridge community, and look forward to mutually strengthening and sharing aspirations.

Eliska Zlamalova — Czech Republic

PhD Medical Science (CIMR)
Darwin College

As a school student in my hometown, Prague, I was fascinated by the ability of biological sciences to describe and even alter processes creating life. I volunteered as a horse riding therapist for disabled children and witnessed their families investing hopes into scientific discoveries that could treat their children. This made me realise how powerful science is and motivated me to help others via scientific advancement. During my BSc at the University of Edinburgh I developed an interest in genetics and molecular biology. I was captivated by the progress of this young field. I participated in diverse genetics research projects and spent two semesters at the University of Adelaide. These experiences enabled me to view the field from several perspectives and appreciate the wide applicability of molecular genetics with potential to impact agriculture, industry and medicine. During my MPhil at Cambridge I studied axonal endoplasmic reticulum and the implications of its defects for the neurodegenerative disease, hereditary spastic paraplegia. I will continue investigating spastic paraplegias for my PhD and hence pursue my long-term interest in neuroscience and human neuropathies. I aim to advance the understanding of spastic paraplegias which would enable their treatment in the future.

T 44 (0) 1223 338467
F 44 (0) 1223 577004
E info@gatescambridge.org

Ground Floor, The Warehouse
33 Bridge Street
Cambridge, CB2 1UW
United Kingdom
www.gatescambridge.org

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