

### THE **NUFFIELD FOUNDATION AT 75**

In this 75th anniversary booklet, we provide a snapshot of our work, illustrated with case studies of some research projects and student beneficiaries.

# The Nuffield Foundation funds research, analysis, and student programmes that advance educational opportunity and social well-being across the UK.

We want to improve people's lives, and their ability to participate in society, by understanding the social and economic factors that affect their chances in life. The research we fund aims to improve the design and operation of social policy, particularly in Education, Welfare, and Justice.

We have recently established the Nuffield Family Justice Observatory to support the best possible decisions for children by improving the use of data and research evidence in the family justice system in England and Wales.

Our student programmes – Nuffield Research Placements and Q-Step – provide opportunities for individual students, particularly those from disadvantaged backgrounds, to develop their skills and confidence in quantitative and scientific methods. We believe these skills are essential for people to participate fully in a digital knowledge economy.

We are the founder and co-funder of the Nuffield Council on Bioethics, which examines and reports on ethical issues in biology and medicine. We have recently established the Ada Lovelace Institute to examine the ethical and social issues arising from the use of data, algorithms and artificial intelligence, and to ensure they are harnessed for social well-being.

We are financially and politically independent, but we often work in partnership with other organisations that share our aims and interests. In 2017, our charitable expenditure was £14.6 million.

#### **CONTENTS**

Our 75th Anniversary	2
Case studies: Education	4
Case studies: Welfare	8
Case studies: Justice	11
Case study: 2017 General Election	15
Student Programmes	16
The Nuffield Council on Bioethics	19
The Ada Lovelace Institute	20



# Advancing social well-being

The Nuffield Foundation was established in 1943, a few months after the Beveridge Report, at a moment when Britain was on the cusp of momentous change. Today, as we celebrate the Foundation's 75th anniversary, we are arguably in the midst of social and technological changes as significant and as far-reaching.

In 2017, we published our strategy, setting out how we will use our role as an independent funder to address the challenges presented by the rapid social, demographic, technological and economic changes in UK society. It is a society that Lord Nuffield would scarcely recognise, but we can trace much of our work back to his original vision, and see continuity between his world and ours.

Established in April 1943 with £10 million of Morris Motors shares, the Nuffield Foundation was for some time the largest philanthropic trust in the United Kingdom, worth approximately £30 million in the 1950s (equivalent to about £1.3 billion today). The original size of the Foundation

was reflected in the scope of some of the early projects funded, including those in medical genetics, physics and health. For example, the Foundation funded the work of two scientists who later became Nobel Prize-winners: Patrick Blackett's investigation of cosmic rays, and Dorothy Hodgkin's research on the structure of penicillin and vitamin B12. Throughout the 1950s, the Foundation was also a major funder of the Lovell Telescope at Jodrell Bank Observatory, which at the time was the only telescope in the western hemisphere capable of tracking the first artificial satellite, the Soviet Sputnik 1.

The collapse of British Leyland and the consequent loss of a large proportion of the Foundation's endowment led to a readjustment of its priorities away from large-scale scientific research. It expanded its work in science and maths education, which had begun in the 1960s, and which led to a fruitful series of curriculum projects that shaped national standards and established the Foundation's reputation as an important influence on education policy and practice. Today, Education remains one of our three core domains that, together with our work in Welfare and Justice, constitute the means by which

we work to improve people's lives. Our Student Programmes are an integral part of our work in Education, echoing the Trust Deed's commitment to scientific research, technical education, and access to educational opportunities. Although we no longer fund large-scale research in the natural sciences, we continue to ensure that innovation in science and technology is harnessed for social well-being. In 1991, we founded the Nuffield Council on Bioethics, which informs policy and public debate through its provision of independent, authoritative advice about the ethical implications arising from developments in biology and medicine. We are now building on that experience by creating the Ada Lovelace Institute, which will examine the ethical and social issues arising from the use of data, algorithms and artificial intelligence.

From its earliest days, the Foundation also made grants for social research, with a particular focus on vulnerable groups in society. From funding the first law centres, we have grown our interest and influence in Justice, and have recently established the Nuffield Family Justice Observatory to support the best possible decisions for children by improving the use of data and research evidence in the family justice system in England and Wales.

Our interest in the 'care and comfort of the aged poor' as set out in the Trust Deed, has led to a stream of projects over the years, from the Rowntree Committee

The man who would give money is compelled to do a great deal of hard thinking. Is his gift going to do good or harm? The responsibility of a would-be giver is great.

**LORD NUFFIELD, 1927** 

to Investigate the Aged Poor, to recent research on policy options for the funding of long-term care and support. In the 1960s, the Foundation funded the landmark Survey of Race Relations in Britain, which drew attention to the gap between the ideals of British democracy and the experience of those who suffered abuse and discrimination. This desire to understand the reality of people's experience is echoed in our current funding priorities. One of the cross-cutting themes of our new strategy is to understand how factors such as income, gender, ethnicity, community and geography can make people vulnerable to risk, and how that might be mitigated. In the last year for example, we have funded a cluster of projects on the relationships between immigration, ethnic diversity and well-being.

In the last few years, the Foundation's endowment has grown to almost £400 million, and our strategy sets out how we will increase our ambition and expenditure to reflect those gains. In the next five years we will commit over £70 million to fund grants and programmes to advance social well-being in a digitally-driven world. This includes a new Strategic Fund for major, longer-term projects. We will issue a call for proposals to the Strategic Fund in 2019.

In the 75 years since the Foundation was established much has changed, both in the projects we fund and the society we serve. But the original ideas and aspirations set out in the Trust Deed – improving the lives of the disadvantaged and vulnerable, empowering people through education, and recognising the value of research and innovation to drive positive change – remain the same.

# Case studies: Education

We aim to improve evidence, policy and practice in education and skills, and to understand the wider influences on people's chances in life, such as the role of families. Our funding priorities include early years education and childcare, numeracy and other fundamental skills, teaching quality, young people's pathways, and educational disadvantage.

### Reforming post-16 maths education

Over the last few years we have built an evidence base that demonstrates the benefits of enabling all young people to study maths beyond the age of 16, and developed recommendations for how that might be achieved. This has led to sustained support from all quarters of the education community, including successive governments, as well as development of a new qualification, and increased financial investment in maths education.

We first made the case for a new qualification in our 2010 report, *Is the UK an outlier?*, which demonstrated that England and Wales have unusually low rates of participation in post-16 maths education compared to other countries. The report's recommendations, and subsequent work funded by the Foundation, were influential in the development of Core Maths, which offers young people an alternative option to A level maths, with a focus on application of quantitative skills.

In 2017 we saw continued evidence of our influence in the government's commitment to make an additional £406 million investment in maths and technical education, including financial incentives for schools that increase take up of A level or Core Maths. This decision was informed by Sir Adrian Smith's review of post-16 maths education, which drew heavily on Nuffield-funded research and echoed many of our recommendations.

We welcome these developments, although we believe there is more we can do to support increased participation in post-16 maths education. We are now funding further projects that will assess the early progress of Core Maths, and identify ways to improve the quality of mathematics education in Further Education colleges.

# The Nuffield Early Language Intervention: proven to improve educational outcomes

The Nuffield Early Language Intervention is a flagship Nuffield Foundation project that has been proven to improve the vocabulary, grammar and listening skills of four- and five-year-olds. Language is the foundation of literacy, and the intervention strengthens the early education for children who may otherwise be left behind.

Having supported the intervention from its initial development and early trialling through to a randomised controlled trial (RCT) by the Education Endowment Foundation (EEF), we have now formed a partnership with Oxford University Press to publish the intervention. This partnership has the potential to allow children in all schools to benefit from the intervention.

The Nuffield Early Language Intervention was developed by a Nuffield-funded team led by Professor Maggie Snowling and

Professor Charles Hulme at the University of Oxford. It includes professional development for teaching assistants and non-specialist teachers, and comprehensive resources to assist with planning, teaching and assessment.

The EEF has designated the Nuffield Early Language Intervention as a 'promising project', and a further, larger-scale trial involving 200 classrooms is now in train.

Building on our success with the Nuffield Early Language Intervention, we have formed a new strategic partnership with the EEF to deliver an end-to-end approach to building evidence in early years interventions, from development and early evaluation through to large RCTs and scaling up of successful approaches. Following a specialist call for proposals, we will fund a number of new interventions that aim to improve outcomes for disadvantaged children.





### Addressing the shortage of teachers

The UK is currently experiencing a shortage of teachers, and poor retention rates within the profession, at a time when student numbers are rising. We are funding the National Foundation for Educational Research (NFER) to analyse teaching workforce data in order to understand why teachers leave the profession or move within the education sector. The project is still underway, but findings so far include:

 Leaving rates are particularly high for early-career teachers in English Baccalaureate (EBacc) subjects, which will make it difficult for the Government to achieve its objective for 90 per cent of all pupils to be entered for GCSEs in EBacc subjects.

- Better part-time opportunities are needed to prevent teachers leaving the profession and to encourage former teachers to return to work part-time.
- Teachers who leave teaching in a state-funded school have lower pay on average in their new job, but improved job satisfaction.
- Teachers work longer hours (in term time) than police officers and nurses, but are more satisfied with their pay.

Collectively, these outputs are building a holistic view of the teaching workforce and the drivers for high turnover. The NFER will publish its final report later this year, but we have already seen significant impact, including Ministerial briefings and engagement with heads of multi-academy trusts (MATs).

### Landmark research into graduate outcomes in the UK

Nuffield-funded research on the long-term earnings of graduates has shown the limitations of Higher Education (HE) as a driver of social mobility, influenced policy debates about future funding models for HE, and led to the development of an experimental new dataset.

The research was led by Professor Anna Vignoles at the University of Cambridge, working with colleagues from the Institute for Fiscal Studies (IFS) and Harvard University. It was the first study to link anonymised tax data and student loan records to examine the relationship between earnings and students' background, degree subject and university attended. The study found that those from richer backgrounds do better in the labour market, even when they have achieved the same qualification as those from lower-income backgrounds.

The average gap in earnings between students from higher- and lower-income backgrounds is £8,000 a year for men and £5,300 a year for women, ten years after graduation.

This approach convinced the Department for Education of the value and feasibility of linking earnings and education data, which it is now developing though the experimental new dataset on longitudinal educational outcomes (LEO).

The research has had a significant impact on higher education policy, and will continue to do so. The government is currently reviewing post-18 education, including consideration of student choice, value for money, and access – all areas where Professor Vignoles' research has changed the terms of the debate.

### Case studies: Welfare

Our aim is to improve lifelong economic and social well-being and participation by identifying and exploring the factors that determine people's welfare. Our funding priorities include the role of family dynamics, employment, and the social and economic welfare of older people. We also want to understand more about the issues affecting relationships between different generations, and about geographical inequalities within the UK.



### The IFS Green Budget: an influential event in the fiscal calendar

The Institute for Fiscal Studies (IFS) publishes the Green Budget every year in the run-up to the Chancellor's Budget. It provides a comprehensive assessment of the state of the public finances, the key economic questions facing the government, and the public policy options. Crucially, it provides independent challenge to the government – an important factor in gaining public trust. The Nuffield Foundation has funded the Green Budget for the last five years, enabling it to become an influential event in the annual fiscal calendar.

The influence and reach of the Green Budget is vast. For example in 2017, over 400 people attended the launch event, which was also live streamed.

IFS researchers were interviewed by major media outlets, and the Green Budget is repeatedly referenced in print, broadcast, and online media. The IFS was also invited to present analysis direct to policy makers and politicians through evidence sessions at the Treasury Select Committee, the Scottish Parliament Finance Committee, and through briefings given to MPs and Peers.

The value of the Green Budget is not only its impact on the quality of the debate on live Budget issues, but also in its longer-term impact on the quality of policy-making through greater use of evidence and a better understanding of the trade-offs being made in the public finances.

### In-work poverty: understanding a growing problem

In-work poverty has increasingly been the subject of public debate, particularly in the context of cuts to tax credits, and housing and child benefits. Nuffield-funded research by Dr Rod Hick at Cardiff University has been influential in demonstrating both the prevalence of in-work poverty and the factors associated with it. His research found that of those living in poverty, 60% live in a household where someone is in work, the highest figure recorded.

When looking at what determines in-work poverty, the number of workers in a household is a more significant factor than low pay. Almost two thirds of people experiencing in-work poverty live in one-earner households, more than double their population share. Most low paid workers, by contrast, are not poor, because many

live in households with additional earners. Housing costs, particularly in the private rented sector, are becoming an increasingly important factor in determining poverty rates amongst working families.

Dr Hick recommends tackling in-work poverty through three main policies: greater provision of free and affordable childcare; a reversal of cuts to tax credits and universal credit; and action to tackle high rents in the private rented housing sector.

Although only published last year, the project has already had impact. Dr Hick has presented findings to shadow ministers and at party conferences, as well as influencing the Welsh Assemblies' trials of different support mechanisms for reducing in-work poverty.



# New £1 million project to understand how social policy can address social inequalities

We are funding a £1 million project to address the question: What progress has been made in addressing social inequalities through social policies?

Although everyone's health, education, career, standard of living and safety are all affected by social policy, these effects are not equal. People are affected differently depending on where they live, their ethnic background, age and income. Understanding the relationship between specific policies and their effects on different groups will enable greater understanding of the changing nature of inequality, and inform development of policies that might reduce it.

The project is being led by Dr Polly Vizard at the Centre for Analysis of Social Exclusion at the LSE and will provide an independent,

rigorous and in-depth assessment of social policies and distributional outcomes in 21st century Britain. The research team is combining quantitative analysis of trends in social inequalities and social divides with detailed and systematic public expenditure and social policy analysis across ten major social policy areas over the period 2015–2020. The research will also include broader reflection on the changing nature of social policies and distributional outcomes, and identify the major challenges for social policy in the 2020s.

The project builds on the influential Social Policy in a Cold Climate project, also funded by the Foundation, which has provided aunique evidence base on trends in social inequalities and social policies between 2007 and 2014.

# Case studies: Justice

Our aim is to help people who are seeking to resolve legal problems — including those which concern their rights in relation to the State — by facilitating evidence-based changes in the justice system. Our funding priorities include family and youth justice and the links with the child protection system, and the participation and rights of vulnerable people within the legal system. Another priority is to encourage good early decision-making that could avoid disputes before they get to court, including in civil and administrative/tribunal justice disputes.

### The Nuffield Family Justice Observatory

We have recently established the Nuffield Family Justice Observatory to support the best possible decisions for children by improving the use of data and research evidence in the family justice system in England and Wales.

The Observatory will address the need – identified by the Family Justice Review in 2011 – to make better use of research findings and administrative data in family justice decision-making. It will focus on meeting the needs of practitioners who make pivotal decisions in the lives of children and families by:

- Working with them to identify priority issues where empirical evidence may help guide practice.
- Providing reliable summaries of what is, and is not, known from research or administrative data.

- Combining knowledge from empirical research with insights from policy, practice and user experience.
- Working with practitioners, policy makers and organisations representing families and children to develop, update and test guidance and other tools based on that knowledge.

The purpose, functions and delivery model for the Observatory have been informed by the findings from a scoping study, led by Professor Karen Broadhurst at Lancaster University. We have now appointed Professor Broadhurst to lead the development phase of the Observatory, which will establish its infrastructure and advise the Foundation on the best operating model for its subsequent 4–5 year pilot delivery phase. We have identified a fund of up to £5 million initially for the Observatory over this period.





### Taking a lead on addressing the 'care crisis'

In 2016, the President of the Family Division of the High Court, Sir James Munby, described the rise in the number of new care cases as "seemingly relentless" and asked: "The fact is that we are approaching a crisis for which we are ill-prepared and where there is no clear strategy to manage the crisis. What is to be done?"

We have taken a lead in trying to answer this question, and have funded a number of projects designed to shed light on the reasons for the increase in care cases, and to coordinate an effective response. In collaboration with the Children and Family Court Advisory and Support Service (Cafcass), we convened a conference to

bring together stakeholders including the Association of Directors of Children's Services, the Children's Commissioner and the Local Government Association.

Following the conference, we funded the Family Rights Group to establish and service a sector-led review. The review will identify specific changes to local authority and court systems and national and local policies that will help safely stem the increase in the number of care cases and reduce the number of children in the care system. We are also funding Dr Lauren Devine at the University of the West of England, whose project will provide evidence on the factors that appear to be driving the increase.

### The case for divorce law reform

Our 2017 report Finding Fault presented findings from Professor Liz Trinder's research into the divorce law in England and Wales. The research showed that the current law, with its requirement to demonstrate 'fault', is incentivising people to exaggerate claims of 'behaviour' or adultery to get a quicker divorce. This is increasing conflict and suffering for separating couples and their children, and undermining the aims of the family justice system, which is focused on reducing conflict and promoting resolution.

The report recommends removing fault entirely from the divorce law and replacing it with a notification system, where divorce would be available if one or both parties register that the marriage has broken down irretrievably and that intention

is confirmed by one or both parties after a minimum period of six months.

We launched the report at a House of Lords reception hosted by Baroness Butler-Sloss, and its call for reform has received support from leading members of the judiciary, the legal profession, and many senior parliamentarians. Media coverage of the report included a front page story in *The Times*, which used it as the launch pad for a campaign for wider divorce law reform.

We have now funded Professor Trinder to work with Baroness Butler-Sloss to draft a Private Members Bill requesting government to review the divorce law and report back to Parliament. The Bill will include a Schedule, setting out a framework for the new law, for the government to consider as part of the Review.

### The impact of poverty on child welfare interventions

We are funding a study by seven British universities that has demonstrated the link between people's income and the likelihood their children will become involved in the child protection system. The UK-wide study led by Professor Paul Bywaters has shown that children in the poorest areas are at least 10 times more likely than those in the most affluent to be either 'looked after' in care, or on a child protection plan. Each step increase in neigbourhood deprivation brings a significant rise in the proportion of children subject to child welfare interventions.

Discussions are underway in all four UK countries about appropriate responses to the findings, and the team has been asked to give evidence to Parliamentary

groups and other reviews and enquiries. Some early policy changes have been achieved, for example offering all families referred for child protection concerns in Northern Ireland a full benefits check and debt advice, and collecting postcode data in the Children in Need census in Wales with a view to annual monitoring of child welfare inequalities.

Also significant was a change in Ofsted policy to acknowledge the relationship between deprivation and the capacity of children's social care to provide high quality services. Members of the team have presented the work at more than 40 events, and held a major UK conference in London in February 2017, in conjunction with Making Research Count.





# Fast-tracked reaction to the 2017 General Election

Some projects we fund cut across our core domains, such as those we funded in response to the snap General Election in 2017. Using a fast-tracked application process, we funded the IFS, the National Institute of Economic and Social Research (NIESR), and Full Fact to provide independent and accurate information to voters.

The IFS and NIESR focused on providing analysis and briefings on key campaign issues, such as tax and benefit, the labour market, spending on health, education, and social care, infrastructure, agriculture, productivity, and regional inequality. The funding we awarded to Full Fact enabled it to fact-check claims made by all major parties during the campaign.

Media engagement was a significant component in getting messages to the public. For example, NIESR and IFS analysis was featured in over 30 front-page stories,

and their spokespeople participated in over 100 broadcast interviews. Social media was also a focus, for example the IFS and Full Fact participated in a Facebook Live Q&A in the final week of the campaign, which was viewed more than 24,000 times.

During the campaign, Full Fact published 100 new factchecks and explainers, including of all the main parties' manifestos. It also live fact-checked seven of the multi-party leader debates, and its work was featured in a range of print, broadcast and digital media. Its factchecks reached 18.5 million people on Facebook and 9.8 million on Twitter.

The extent of the coverage and engagement secured demonstrates that all three organisations achieved their goal to get independent and accurate information into the public domain. However, the extent to which this analysis informed voter decision-making is difficult to assess.

## Student Programmes

Nuffield Research Placements and Q-Step provide opportunities for individual students, particularly those from disadvantaged backgrounds, to develop their skills and confidence in quantitative and scientific methods. We believe these skills are essential for people to participate fully in a digital knowledge economy.

### Nuffield Research placements

Nuffield Research Placements are designed to encourage more young people, particularly those who are socio-economically disadvantaged, to choose further study and careers in science (including social science), technology, engineering and maths (STEM). They provide Year 12 (or equivalent) students with the opportunity to spend their summer holidays working on a research project in a professional environment.

Each year around 1,200 students undertake placements, arranged by our network of regional Nuffield coordinators. Since 2013, we have increased the proportion of participating students who come from lower-income households from 41% to 57%, a trend we aim to continue.

### Q-Step social science degrees

In 2013 we launched Q-Step – a £19.5 million programme to promote a step-change in undergraduate quantitative social science training in the UK. Since then, eighteen universities across the UK (15 Q-step Centres and three Q-Step Affiliates) have been delivering new courses, work placements and pathways to postgraduate study.

Co-funded with the Economic and Social Research Council and the Higher Education Funding Council for England, Q-Step is a strategic response to the shortage of quantitatively-skilled social science graduates.

In 2016/17, 1,231 new students enrolled on 68 Q-Step degree programmes, and a further 8,527 took one or more of the 172 specialist Q-Step modules. Work placements are a popular and distinct feature of the Q-Step degrees, with 238 employers now providing placements across the network.

# Working with employers and alumni

We are grateful to all the employers who provide placements for our students, and are always keen to develop new partnerships with companies, universities, and organisations that would like to work with our students. Hosting a Nuffield Research Placement or Q-Step student is a great way to get help with a project, develop staff mentoring and management skills, and forge links with talented students who could become future employees.

We facilitate alumni networks for both Nuffield Research Placements and Q-Step. Former students are keen to work with us to spread the word about the positive impact our Student Programmes have had on their further study and career choices. For example, several Nuffield Research Placement alumni have gone on to provide placements themselves.

Both Nuffield Research Placements and Q-Step are being independently evaluated, and we will feed those findings into enhancing our existing Student Programmes and potentially developing new ones.



CASE STUDY

Roxanne El-Hady completed her Nuffield Research Placement in 2015 in the Department of Geography at Royal Holloway, University of London. In 2016, Roxanne's Nuffield project won her the title of UK Young Scientist of the Year. She is now studying Geology at the University of Bristol and is a Nuffield Student Ambassador.

"I wasn't sure what I wanted to do at university, but a friend told me about Nuffield Research Placements and I thought it might

give me a better idea, so I applied. My project was about reconstructing rapid climate change in South Wales. I was part of a project providing the first complete record of long-term climate change in that region. I had no clue about the subject before I started! I didn't really know what to expect, but it was good to be challenged and learn something new.

"I learned a lot about working in a scientific environment, particularly about the process of research itself. I was looking at a tiny part of a huge topic, and it was new to get into such a level of detail about it – something you don't really do at college.

"I couldn't believe that I won Young Scientist of the Year 2016. Since then I've been able to travel to New Zealand and Samoa, which was an amazing experience. Being able to share the experience I've had and the value of it has been really rewarding."



**CASE STUDY** 

Ashley Sibanda completed her Nuffield Research Placement in 2016 at the National Foundation for Educational Research. She is now studying Chemical Engineering at the University of Rochester, in the US.

"I am very academically curious and have a strong passion for Mathematics.

After applying for a Nuffield Research Placement, I was delighted to get a phone call informing me they had a placement involving statistics.

"My project was about using statistics to make sure academic tests are testing what they should be for the right year groups. This involved a lot of sampling and processing spreadsheets of data, and then presenting the information in useful, interpretable tables and graphs. I was able to access the NFER library, reading through journals to try and identify other factors that affect academic performance, such as bullying or class size. The branch of statistics was very intriguing – it wasn't just classroom theoretical statistics.

"I learnt a lot of statistics in just four weeks.

I also learnt to be more accurate with
my calculations and work as a team.

I had never attended meetings before and it was a good lesson to learn to not go to one empty handed: a notebook and pen might help!

"I did end up enjoying research more than I thought I would, which definitely influenced my university and course choice. At the moment I am thinking of going on to complete post-graduate studies – researchers never stop learning!"

### The Q-Step student experience



**Karl Ferguson** graduated from Queen's University
Belfast with a BA Hons in
Sociology in 2015. He won
a Q-Step Dissertation
Award for research design
and is now a PhD student at
the University of Glasgow.

"Without Q-Step, it's a simple fact that I would not be where I am right now – doing a fully funded quantitative PhD. Q-Step took the fear factor out of stats, showed how stats can be useful, and supported me alongside the university department. Q-Step also funded an internship and my dissertation – high points on my CV. Q-Step really helped me stand out."



**Anna Kiel** graduated from the University of Manchester with a BSocSci Hons in Politics and International Relations in 2015.

"The University of Manchester Q-Step programme helped shape my career. Before completing my Q-Step internship in 2014 with AudienceNet I had never considered a career in market research. Two years later I'm still working for AudienceNet and now training the next cohort of Q-step interns.

Through my experiences I have come to really enjoy working with data, and using data to make a positive impact on the world, through projects including how to engage youth with politics, and on changing public perceptions of the refugee crisis."



James Harman graduated from the University of Exeter with a BA in Politics and Sociology, with Proficiency in Applied Data Analysis in 2016.

"I have taken enough O-Step modules to qualify for the Proficiency in Applied Data Analysis. These have definitely been the most interesting, relevant and enjoyable modules that I have done. I learned how to interpret empirical papers for my literature review, and how to conduct survey and secondary data analysis, which are the core of my thesis. Q-Step also supported me with a bursary to attend the University of Essex's Summer School, Best of all, thanks to the skills and experience gained. I have been accepted into the Government Social Research Service."

### The Nuffield Council on Bioethics

was established by the Nuffield Foundation in 1991 to identify, examine and report on the ethical questions raised by advances in biological and medical research. Since 1994, the Council has been co-funded by the Nuffield Foundation, the Wellcome Trust and the Medical Research Council.

The Council has achieved an international reputation for providing independent, authoritative advice to inform policy and public debate about the ethical implications arising from developments in biological and medical research. It is currently undertaking two in-depth inquiries, one on genome editing, and another on research in global health emergencies. Inquiries the Council has completed in recent years include:

- · Non-invasive prenatal testing
- · Cosmetic procedures
- Naturalness
- Biological and health data
- The culture of scientific research
- · Novel neurotechnologies
- Donor conception
- · Emerging biotechnologies
- Novel techniques for the prevention of mitochondrial DNA disorders
- Human bodies: donation for medicine and research
- Biofuels
- · Medical profiling and online medicine
- Dementia
- Forensic use of bioinformation
- Critical care decisions in fetal and neonatal medicine



The Council also publishes *Bioethics Briefing Notes*, which provide an overview of the ethical issues arising from new scientific and medical developments. Recent and forthcoming examples include treatments for ageing, whole genome sequencing of babies, and artificial intelligence in healthcare and research.

### The Ada Lovelace Institute

We are establishing a new £5 million Ada Lovelace Institute to examine the profound ethical and social issues arising from the use of data, algorithms and artificial intelligence, and to ensure they are harnessed for social well-being.

The new Institute is named after Ada Lovelace, the 19th Century mathematician widely regarded as one of the first computer scientists. The first of its kind in the UK, the Institute will:

- Convene diverse voices to build a shared understanding of the ethical questions raised by the application of data, algorithms, and artificial intelligence (AI).
- Initiate research and build the evidence base on how these technologies affect society as a whole, and different groups within it
- Promote and support ethical practices that are deserving of public trust.

The Institute will act as an independent voice, speaking on behalf of the public interest and society, informing thinking of governments, industry, public bodies and civil society organisations, in the UK and internationally.

Over the last few months, we have convened a partnership of leading organisations to address the need for agreed ethical frameworks and codes of practice for the use of new technologies, which have developed rapidly over recent years. The contributing partners are The Alan Turing Institute, the Royal Statistical Society, the Nuffield Council on Bioethics, the Wellcome Trust, the Royal Society, the British Academy, techUK and Omidyar Network's Governance & Citizen Engagement Initiative.

The public debate sparked by Cambridge Analytica's alleged use of Facebook data illustrates the importance of anticipating the ethical questions raised by emerging technologies and their application, which will be a core part of the new Institute's remit.

The Ada Lovelace Institute will complement the work of regulators and the government's Centre for Data Ethics and Innovation. We aim to have the Institute fully established before the end of 2018.



