

This is a directory of all the academic-led, pre-defined research projects that are available for the Laidlaw Scholarship in 2019/20. When applying for the Laidlaw Scholarship, you should give preferences for two research projects you would be interested in completing.

Before indicating a preference for a research project, you should first:

1. Ensure that you are eligible to apply for the project – the criteria can be found in the quick reference charts and project descriptions;
2. Ensure that the project is compatible with your chosen Leadership in Action option – this can be found in the quick reference charts;
3. Contact the academic lead for the project to ensure that you fully understand the project, its goals and its requirements.

Eligible first-year students can apply for academic-led projects on [MyCareer](#). Guidance for submitting an application can be found [here](#).

If you would like to design your own project, you can submit a self-defined project proposal on [MyCareer](#). Please find guidance notes for submitting a self-defined project [here](#).

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Project Title	Applications accepted from first year students in...		Additional Eligibility Criteria	Leadership in Action Compatibility			Academic Name
	Faculty	Schools		Leadership Expedition	Leadership Placement	Research Period	
Opera North and The Turn of the Screw	Arts, Humanities & Cultures	Design English Fine Art, History of Art and Cultural Studies History Languages, Culture and Societies Media and Communication Music Performance and Cultural Industries Philosophy, Religion and History of Science Medieval Studies	Accepting applications from any subject - so long as the applicant has an interest in opera and theatre	No	No	Yes	Edward Venn
Registrar Training for the Future; Evaluating Impact			Open to students with an interest in museums and heritage	Yes	Yes	Yes	Abigail Harrison Moore
The Legacy of Captivity			Accepting applications from any subject - so long as the applicant can read German to A-level standard (does not need formal qualification)	No	No	Yes	Anne Buckley
Maximising youth-led learning in Changing the Story				No	No	Yes	Paul Cooke
Daily Democracy: A Study of British MP's Use of Twitter during Non-election Periods			Open to students with knowledge of politics, political communication, journalism studies, election campaigns and social media	Yes	Yes	Yes	Todd Graham
How the School of Media and Communication's Career Mentoring Scheme can benefit both students and the faculty's employability strategy.				Yes	Yes	Yes	Samantha Gill
Developing the evidence base for good practice in animal welfare			Biological Sciences	Biology Biomedical Sciences Molecular and Cellular Biology	Accepting applications from any subject	No	No
Do coral reef soft corals and zoantharians tropicalise temperate reef communities in Japan?	Knowledge of Japanese language is a bonus. Confident swimming skills are required for fieldwork.	No			No	Yes	Maria Beger
HDAC inhibitors and microglia activation	Must have a suitable background e.g. studying a degree related to Biomedical Sciences, Biological Sciences or Biochemistry	No			No	Yes	Ian Wood
Novel molecular tools for the selection of tomato varieties with delayed softening and spoilage		No			No	Yes	Yoselin Alfonso
Identifying novel BACE1 modified proteins		No			No	Yes	Paul Meakin

Project Title	Applications accepted from first year students in...		Additional Eligibility Criteria	Leadership in Action Compatibility			Academic Name
	Faculty	Schools		Leadership Expedition	Leadership Placement	Research Period	
Ready for work? Postgraduate students' reflections of their work-readiness following a Zurich study tour.	Business School	Accounting and Finance Economics International Business Management Marketing Work and Employment Relations	Ideally will either have an A-level in Mathematics/Statistics (or equivalent), or have studied and passed a Maths/Statistics module at the University of Leeds	No	No	Yes	Iwi Ugiagbe-Green
Concrete for Automated Digital Fabrication	Engineering & Physical Sciences	Mathematics Physics Chemistry All Engineering Schools	Preferably a student studying one of the following: Civil Engineering Chemistry Chemical Engineering	No	No	Yes	Sam Adu-Amankwah
AI for RoboCup@Home			Good working knowledge of either Python or C++	No	No	Yes	Matteo Leonetti
Improving orthotic garments for children with cerebral palsy				No	No	Yes	Claire Brockett
Physics Careers App			Accepting applications from any subject	Yes	Yes	Yes	Alison Voice
Quantum many-body scars: a new paradigm of order amidst quantum chaos			Physics only	Yes	Yes	Yes	Zlatko Papis
What helps students make a successful transition to university?			Accepting applications from any subject	Yes	Yes	Yes	Alison Voice
Inverse Problems Research and International Competition			High marks in one or more of the following (or similar) modules: Calculus & Mathematical Analysis Linear Algebra with Applications Introductory Linear Algebra	No	No	Yes	Daniel Lesnic
The evolution of kinase enzymes				No	No	Yes	Paul Taylor

Project Title	year students in...		Additional Eligibility Criteria	Leadership in Action Compatibility			Academic Name
	Faculty	Schools		Leadership Expedition	Leadership Placement	Research Period	
Climate change and emergency response in the Arctic	Environment	Earth & Environment Food Science & Nutrition Geography Transport Studies	Know ledge of computer coding and programming is an asset. The ability to speak Danish and/or Russian w ould be an asset but is not necessary.	No	No	Yes	James Ford
Eager about beavers? Quantifying and understanding killing of reintroduced beavers			No	No	Yes	George Holmes	
Enhancing the impact of Fair Trade through Co-creation			Yes	Yes	Yes	Anne Tallontire	
Phosphorous-bearing minerals in pallasite meteorites – fingerprints of early solar system processes?			No	No	Yes	Jason Harvey	
Investigation of road design and traffic management in Brazil for road safety			No	No	Yes	Yue Huang	
Queer Memorials: A Critical Inquiry into Processes of Inclusion and Exclusion of Sexual Difference			No	No	Yes	Martin Zebracki	
Rocking diversity – how representative is the UK's geodiversity conservation portfolio?			Yes	Yes	Yes	Phillip Murphy	
The pedestrian environment and new mobility services: mixed messages?			No	No	Yes	Kate Pangbourne	
The rising tide of double diabetes			Yes	Yes	Yes	Matthew Campbell	
The rock record of earthquakes: what processes are evident in microstructures?			No	No	Yes	Laura Gregory	

Laidlaw Undergraduate Leadership and Research Scholarships Academic-led Project Proposals 2020



Project Title	Applications accepted from first year students in...		Additional Eligibility Criteria	Leadership in Action Compatibility			Academic Name
	Faculty	Schools		Leadership Expedition	Leadership Placement	Research Period	
An evaluation of how the MIMOS study has complied with the Survivors Charter	Medicine & Health	Dentistry Healthcare Medicine (NOT MBChB Students) Psychology		Yes	Yes	Yes	Elizabeth Hughes
Psychological Literacy: A Review and Critical Appraisal			No	No	Yes	Richard Harris	
Brexit discourses and the British national identity: the war of position over the UK's place in the world	Social Sciences	Education Law Politics & International Studies Sociology & Social Policy		No	No	Yes	Jack Holland
Emerging Trends in Innovative Learning and Teaching Spaces			Must be a law student	Yes	Yes	No	David Pearce
Exploring the Changing Profile of Poverty				No	No	Yes	Daniel Edmiston
REACH Primary: Understanding Pupils Reading and Comprehension				Yes	Yes	No	Peter Hart
Re-Integrating Terrorists: public perceptions of re-integration programmes				No	No	Yes	Gordon Clubb
Understanding inclusive learning spaces			Must have entered your degree programme through one of the following: Access to Leeds, Foundation degree, BTEC, or be a member of the Plus Programme	Yes	Yes	Yes	Simon Lightfoot
Zygmunt, Teaching and the History of Sociology				Yes	Yes	Yes	Tom Campbell
Online Political Discourse in the US General Election: Preliminary Analysis of the Early Election Period			Open to students in Politics & International Studies, and Media and Communication	Yes	Yes	No	Gillian Bolsover

Arts, Humanities and Cultures

Project Title	Opera North and <i>The Turn of the Screw</i>
Project Description	<p>In Spring 2020, Opera North will be mounting a new production of Britten's opera <i>The Turn of the Screw</i>. The project supervisor will have access to materials relating to the production of the opera. This material (and, where possible, additional material made available in negotiation with Opera North) will be accessible to the Laidlaw scholar.</p> <p>The overarching research project will explore the ways in which different aspects of the production (including, but not limited to, music, words, stage design, costumes, lighting, performance gestures, and promotional materials). Over the course of the first summer, the Laidlaw scholar will select one or more of these aspects (or suggest an alternative, such as the relationship between the production and the original book) and tease out the ways in which the selected aspect(s) contribute to the theatrical experience. It is expected that the scholar will focus on an area of the production/opera that relates to their own subject specialism. Musical expertise is not required.</p> <p>In the second summer, the scholar will work with the project supervisor to co-author a journal article and present findings at a suitable international conference.</p>
Person Specification	<p>The project does not demand applications from any specific disciplinary background; rather, applications are sought from anyone with an interest in opera and theatre, whether the actual performance, the design of staging/costumes, or in the historical/literary background to the work. The applicant is required to demonstrate initiative and suggest possible avenues for the research project to take, based upon their own disciplinary specialism. The applicant will be able to manage their time efficiently and effectively, and be willing, if required, to travel to relevant locations to access further materials.</p>
Academic Lead	Edward Venn (e.j.venn@leeds.ac.uk)

Project Title	Registrar Training for the Future; Evaluating Impact
Project Description	For 10 years, the University of Leeds has been working in partnership with the Royal Armouries and Leeds Museums and Galleries to deliver a unique project to train registrars. Often described as the heart of a museum, and a vital part of all museum collections activity, from acquisition, through loan and conservation through to sale, this important role had no bespoke training offered anywhere in Europe until ACE funding helped us develop a 1 year internship, where the student completes a PG Cert at the University, while working on projects across both museums and with organisations such as art movers and insurers. Success has been demonstrated by the fact that all 10 graduates have been placed immediately in museum roles, and work for national and local museums and galleries across the UK. But after 10 years we are looking to expand the programme and therefore it is vital to evaluate its impact. Using a mix of research methods (quantitative and qualitative), the scholar will work with the graduates of the programme, the delivery partners and the museums where they now work to produce an analysis of the impact of this project.
Person Specification	This project would particularly suit a student keen to develop their research skills but able to work independently and to a high standard; to have good attention to detail; to present research findings clearly and concisely; and to have, or have the potential to develop, excellent communication skills (in verbal and written form). An interest in museums and heritage is highly desirable. There will be opportunities to get involved in public engagement and give talks/research papers once the research is done so students with good communication skills and an interest in a future heritage career should consider applying.
Academic Lead	Abigail Harrison Moore (a.l.moore@leeds.ac.uk)

Project Title	The Legacy of Captivity
Project Description	<p>In this project you will use your research and detective skills to find out about the lives of former German prisoners of war after they were repatriated from Yorkshire back to Germany after the First World War. This project is part of an existing project about the prisoner of war camp in Skipton, North Yorkshire and contributes to the supervisor's current work on the legacy of surrender and captivity.</p> <p>You will be trained to obtain information from a variety of sources and to find out about the post-war lives of the men. In the second summer you will go on a research visit to Germany.</p> <p>You will visit the Imperial War Museum North and attend a conference to learn about presenting information to both an academic and a general audience.</p> <p>You will design materials to present your findings at an exhibition at Skipton Library and to local secondary school pupils. You will also write short blog posts and press releases for the local newspaper (after training).</p> <p>The research training and experience that you will gain through this project will be useful for your Final Year Project. The communication and leadership skills that you develop will be useful throughout your degree course and for future employment.</p> <p>You must be able to read German to A level standard (you do not necessarily need a formal A level qualification and they do not need to be currently studying German). Further training will be provided if needed. Please contact Anne Buckley if you have any questions.</p>
Person Specification	<p>The scholar must be self-motivated with excellent organisational skills. He/she must be able to work unsupervised for periods of time as necessary. He/she must have excellent communication and writing skills. He/she should have an interest in history and the First World War.</p> <p>The scholar must be able to read German to A level standard (he/she does not necessarily need a formal A level qualification and he/she does not need to be currently studying German).</p>
Academic Lead	Anne Buckley (a.buckley@leeds.ac.uk)

Project Title	Maximising youth-led learning in Changing the Story
Project Description	<p>Changing the Story (https://changingthestory.leeds.ac.uk/) is a participatory action research project involving researchers, NGOs, Civil Society Organisations and young people in 12 post-conflict countries across the Global South. So far, we have undertaken a good deal of research exploring the ways in which CSOs work with young people in these countries to help them to become youth leaders, in order that they are able to actively shape, and to advocate for change in, their communities.</p> <p>While our projects have all been youth led, our work to date has largely focussed on the ways in which the CSOs engage young people and how we can impact their organisational practice. In this project we wish to shift the focus more squarely onto the young people we have been engaging with themselves, in order to understand better how they view themselves as youth leaders, as well as acknowledging the growing number of CSOs that have been founded by young people themselves. In the process we plan to put together an international 'Youth Leadership Board' who will be able to feed into Changing the Story's overall project evaluation and dissemination strategy. Over two summers you will carry out interviews with some of the young people who have engaged with the project, helping to co-produce with them a 'youth leadership tool kit'. You will also help to develop our projects' youth-engagement and evaluation strategy, and lead on the organisation of a 'youth activity programme' for Changing the Story's final conference in October 2021.</p>
Person Specification	<p>This project would particularly suit a student keen to work with young people in development contexts. It will help them to develop action-research skills, particularly the skills required to develop high quality research through a process of 'co-production', working in partnership with young people. They will be self-motivated, outward looking, able to work independently and to a high standard. They should be very organised, have a good attention to detail and be able to (or to learn to) present research findings clearly and concisely; and to have, or have the potential to develop, excellent communication skills (in verbal and written form). A commitment to the ethics and values of Changing the Story (https://changingthestory.leeds.ac.uk/) is essential.</p>
Academic Lead	Paul Cooke (p.cooke@leeds.ac.uk)

Project Title	Daily Democracy: A Study of British MP's Use of Twitter during Non-election Periods
Project Description	<p>The aim of this project is to study how social media are impacting the relationship between politicians, journalists, and citizens. This project focuses on Twitter, which has become one of the most influential social media platforms among politicians and journalists. In addition to the 2019 general election, the project moves beyond election campaigns by studying the way MPs do or do not engage (in conversation) with their constituents or the broader public through Twitter in quiet times (summer recess), times of crisis (Brexit negotiations) and potentially during other campaigns (e.g., second referendum). The study uses digital methods to collect and map data including tweets and connections between actors but then uses quantitative content analysis to investigate tweeting behaviour (e.g., the nature of any interaction between MPs and members of the public).</p> <p>The scholar involved in this project will a) undertake content analysis in the form of coding of a large number of tweets according to a predefined coding schema, alongside academic staff currently working on the project and/or b) conduct a series of semi-structured interviews with MPs on their social media use – transcribing and coding the interview data. After coding is complete, the scholar will have the opportunity to use digital and statistical methods to create descriptive, analytical, and/or comparative insight into the practices uncovered.</p>
Person Specification	<p>The scholar should:</p> <ul style="list-style-type: none"> - have some general knowledge of politics, political communication (or journalism studies), election campaigns, and social media; - have some basic skills in analysing texts and are willing to learn (new) methodologies of content analysis, and interviewing; - be able to work as part of a research team; - have good communication skills; - be organized and capable of meeting deadlines
Academic Lead	Todd Graham (t.graham@leeds.ac.uk)

Project Title	How the School of Media and Communication’s Career Mentoring Scheme can benefit both students and the faculty’s employability strategy.
Project Description	<p>The School of Media and Communication has an opportunity for one student to help undertake research into the School’s Career Mentoring Scheme; and how this benefits both students and the School’s Employability Strategy.</p> <p>The successful candidate will work closely with both the School’s Placement and Employability Officer and Academic Employability Lead, to conduct interviews with both past and present mentors and mentees, in order to ascertain both students’ ‘career readiness’; and mentors assessment of what employability skills are necessary to enter the labour market.</p> <p>Through this role students will develop the following:</p> <ul style="list-style-type: none"> • The ability to work autonomously, take the initiative and to be self-directed in undertaking tasks. • The ability to build rapport with others. • The ability to liaise, gather and record information from both internal and external sources • To develop a system to record the data collated in order to inform the research outcomes. <p>The Scholar will be able to demonstrate leadership skills by:</p> <ul style="list-style-type: none"> • Contacting and organising interviews with participants of the scheme • Collating information in order to present the information in a precise and informative way • Develop their communication skills via email, phone and face to face • Gain transferable skills to able their own personal and professional development • Produce a report of their findings to be presented to both the Placement and Employability Officer, Academic Employability Lead and the School.
Person Specification	<ul style="list-style-type: none"> • Professional, approachable and polite manner • Excellent communication skills • Strong organisational skills: able to prioritise tasks and work flexibly • Able to work with initiative on set tasks • Strong administrative capability and good IT skills
Academic Lead	Samantha Gill (s.e.gill@leeds.ac.uk)

Biological Sciences

Project Title	Developing the evidence base for good practice in animal welfare
Project Description	<p>Are you interested in Animal welfare? Would you like to increase the reproducibility and reliability of science? Would you like to be a partner in research with Global impact? If yes, this is the project for you. You don't have to be a biologist, it is open to students in all Faculties.</p> <p>Studies involving laboratory animals (rats and mice) are unreliable and irreproducible; the science is not transferable to humans. It is becoming increasingly evident that animal welfare, how the animal is handled, housed etc, has a significant impact on the reliability, reproducibility and translatability of the science yet there is limited understanding of these welfare factors and how they can change the science. You will discover and evaluate the evidence.</p> <p>In Year one, you will undertake a systematic review (a structured literature search) and meta-analysis of the animal welfare and scientific literature to determine the impact of welfare interventions on laboratory rats and mice, and on the science. In Year two, you will undertake surveys of animal care staff and researchers at Leeds, nationally and internationally to investigate their knowledge and understanding of animal welfare on science; how they care for lab animals, and develop recommendations for good practice. Animal research goes on across the world so your research will have global impact. It will enhance the welfare of laboratory animals and improve science world-wide.</p>
Person Specification	The Scholar DOES NOT have to be a biologist or scientist or have any subject specific knowledge. It is open to students from any Faculty or discipline. They should be committed, self-motivated, independent thinkers, with good communication (oral and written), inter-personal, problem solving, critical thinking skills. Experience of bibliographic searches, critical reviews of the literature and data analysis would be beneficial. There should be some availability to travel in Year 2 of the project
Academic Lead	David Lewis (d.i.lewis@leeds.ac.uk)

Project Title	Do coral reef soft corals and zoantharians tropicalise temperate reef communities in Japan?
Project Description	<p>Multi-species range shifts caused by the global climate breakdown transform communities, but these changes remain largely unquantified. This is a problem because it is disrupting the resource use of the almost 1 billion people depending on coastal reefs. Gradients within tropical-to-temperate biogeographic transition zones represent a model system to examine community reorganisation and changes in function. There is ample evidence for hard corals and fish species that tropicalisation, i.e. expansion of coral reef biota into higher latitudes, is ongoing. However, we lack knowledge about any shifts in other reef associated taxa, such as invertebrates. The scholar's work will ask: Can we detect tropicalisation and functional shifts in soft coral and zoantharian communities on a tropical to temperate gradient in Japan?</p> <p>The project occurs over two summers, with the first aiming to develop quantitative analysis skills with existing data. The scholar will spend the second summer in Okinawa, using molecular techniques to discover soft coral and zoantharian species present at tropical and subtropical location.</p> <p>Expected project outcomes include novel understanding and quantification of tropicalisation for soft coral and zoantharian taxa. The management of reefs depends on such robust metrics of how climate stressors affect their functioning.</p>
Person Specification	<p>Crucial:</p> <p>A-levels or equivalent in Biology and Mathematics, ideally also in Chemistry. An A in Mathematics at GCSE level may be considered.</p> <p>Knowledge/experience/ strong interest in ecology, and evolution.</p> <p>Previous research experience, e.g. through an Extended Project Qualification or volunteering.</p> <p>Experience in overseas travel or working with people from other cultures/ non-native English speakers.</p> <p>Confidence in working with teams and presenting work, ideally with some experience in managing a project.</p> <p>Passion for marine conservation and being in/ around the marine environment.</p> <p>Knowledge of the Japanese language would be advantageous.</p> <p>Optional for those wanting to do fieldwork:</p> <p>Experience and aptitude for outdoor experiences, e.g. through the Duke of Edinburgh or personal interest in the outdoors.</p> <p>Confident swimmer.</p> <p>(These two points are crucial for an applicant who wants to learn SCUBA to conduct fieldwork. Fieldwork requires physical and mental robustness and fitness, as well as good health (a medical is required to SCUBA dive)).</p> <p>Ability to part-fund SCUBA training (the money asked for in the budget will only cover the first stage of the training (e.g. Open Water diver) and to dive with the University of Leeds the scholar will also need to complete Advanced Open Water diver and Rescue Diver – or equivalent. The Beger lab will support the scholar to achieve this goal, and assistance might be available through the UnivLeeds Dive club. However, I do not have discretionary funds that can be used towards personal recreational diving qualifications through university research funds/ budgets).</p>
Academic Lead	Maria Beger (m.beger@leeds.ac.uk)

Project Title	HDAC inhibitors and microglia activation
Project Description	Excessive activation of microglia has recently been suggested as a contributing mechanism in the pathogenesis of Alzheimer's disease. Being able to regulate microglia activity would provide a useful and novel strategy to combat the neurodegeneration and cognitive declines and has been shown to be beneficial in animal models of Alzheimer's. As a first step to translate this strategy to humans, we need to identify drugs that will be able to reduce microglia activation without the off target effects of those that are currently available. We have shown that a class of drugs known as HDAC inhibitors can inhibit microglia activation, reducing inflammation in the brain. Though this activity has now been well documented by us and others, the mechanisms by which HDAC inhibitors reduce microglia activation are not known. We also have a number of other drugs that we are characterizing that show potential to be able to control microglia activity. The aim of this project will be to identify those drugs that can regulate microglia activity and investigate the mechanisms by which they reduce microglia activation. The work will involve the use of cultured microglial cells and a range of cellular/molecular assays that will quantify effects on activation, proliferation, apoptosis and gene expression and protein regulation. The project will require care and good sterile technique. This project will use biochemical (including molecular biology, PCR, westerns, fluorescence microscopy, and gene cloning), cell culture techniques and would be appropriate for any bright, hardworking, conscientious individual with an interest in molecular technology.
Person Specification	The applicant should have a suitable background, for example studying a degree related to Biomedical Sciences, Biological Sciences or Biochemistry and an interest in neurodegenerative diseases and/or neuroscience. The individual should be able to demonstrate competency within their degree programme and have interest in understanding molecular mechanisms. The applicant will need to be able to work as part of a larger team but demonstrate they can take initiative and be responsible for their own experiments.
Academic Lead	Ian Wood (i.c.wood@leeds.ac.uk)

Project Title	Novel molecular tools for the selection of tomato varieties with delayed softening and spoilage
Project Description	Tomato, <i>Solanum lycopersicum</i> L., is one of the most important crops and an important source of nutrients in the world. However, around 25-42% of the yield are lost during postharvest. Rapid softening is one of the main causes reducing the shelf-life of the fruit. Therefore, delaying this process is one of the major targets in fruit breeding programmes. In this project, the impact on fruit softening of cell wall modifications targeting the synthesis/degradation of the beta 1,3 glucan component (named callose) will be investigated. The aim is to determine how changes in callose accumulation modify the texture, the structural and mechanical properties of tomato fruit. The results of our project will provide novel molecular tools to use in the selection and breeding of fruit varieties.
Person Specification	The scholar will need good in communication skills for oral and written presentation of their work as well as to read scientific publications. It is desirable that she/he can demonstrate to be able to work independently after providing guidance and to have good knowledge in biology, mathematics, chemistry and/or biomechanics.
Academic Lead	YOSELIN BENITEZ-ALFONSO (y.benitez-alfonso@leeds.ac.uk)

Project Title	Identifying novel BACE1 modified proteins
Project Description	<p>Cardiovascular disease is the biggest killer for individuals with type 2 diabetes. Endothelial cells play a key role in regulating the responses of blood vessels to a number of stimuli, such as hormones and blood flow. Compromised responses, as seen in individuals with type 2 diabetes, results in impaired blood flow leading to stroke or heart attack.</p> <p>The β-secretase (BACE1) enzyme has become infamous due to its role in causing Alzheimer's disease. However, we have shown that increased BACE1 activity also drives the development of vascular complications associated with type 2 diabetes.</p> <p>In this project the scholar will grow human and mouse endothelial cells and use a range of molecular biology (imaging, western blotting, ELISA and mass spectrometry) techniques to investigate what happens to BACE1 function in the setting of type 2 diabetes.</p> <p>Results from this project will help us understand the physiological role of BACE1 in regulating blood vessel function and how this becomes maladaptive in disease. It will identify BACE1 as an important drug target for vascular disease associated with type 2 diabetes.</p>
Person Specification	The scholar should be highly motivated and have a strong interest in the fields of cardiovascular disease and diabetes. This project will involve the scholar using a number of complex techniques, therefore attention to detail, good organisational and time keeping skills are essential.
Academic Lead	Paul Meakin (p.j.meakin@leeds.ac.uk)

Business School

Project Title	Ready for work? Postgraduate students' reflections of their work-readiness following a Zurich study tour.
Project Description	<p>This is an amazing opportunity to work on a research project that is about students! This exciting, challenging and immensely rewarding research project will develop the leadership, commercial awareness, communication, negotiation, analytical & digital skills of the successful scholar.</p> <p>The research study explores the experiences of LUBS postgraduate students during and following completion of their study tours in Zurich, Switzerland. The scholar will be required to use statistical methods to analyse quantitative and qualitative data. Training will be provided to the scholar, if needed. However, the scholar should be able to demonstrate good statistical knowledge. The scholar will be required to engage in a short literature review, in order to become familiar with the concept of professional identity. Following the literature review – the scholar will engage in analysis of the interesting data collected from students following their Zurich study tour in June 2019. However, phase 2 of the project will involve the collection of data from students before, during and after their Zurich study tour in 2020. As such, the successful scholar may have the opportunity to travel to Zurich in June 2020 on the study tour to observe activities and collect data from students.</p>
Person Specification	<p>The successful first year student will have a range of skills (please see below), but most importantly a positive, professional attitude and willingness to take advice and/or constructive feedback and offer ideas.</p> <p>Essential</p> <ul style="list-style-type: none"> • Good communication skills • Excellent interpersonal skills • Be proficient in using Excel • Be reliable and hardworking • Demonstrate a professional attitude • Experience of academic reading • Good organisation skills <p>Ideal</p>

	<ul style="list-style-type: none"> • ‘A’ Level Maths/Statistics (or equivalent) • Studied and passed a Maths/Statistics module at University of Leeds • Enjoy Academic reading and writing • Experience in using NVivo (training will be provided in the event that the successful scholar does not meet this) <p>The successful scholar will be committed, hard working and happy to take responsibility for their work load. The supervisor of the project, will be around for most of the duration of the project to support the scholar, but they will be expected to manage their workload in preparation for weekly updates. The scholar will be supported by another Laidlaw Scholar, who has already been recruited on a different project. Additionally, data officers, based in the accounting and finance division will be available to support the scholar with technical queries. Training on SPSS and NVivo, is also available to the scholar.</p> <p>The successful scholar will be friendly, enjoy working with others as well as able to work independently. The scholar will be skilled in using Excel and have basic knowledge of statistics, though above average statistical skills will be an advantage, but is not essential.</p> <p>Finally, the successful scholar will have the confidence to propose ideas about the direction of the project and willing to listen and learn from others. The scholar will need to demonstrate professionalism in their dealings with fellow students and employers from the study tour.</p>
Academic Lead	Iwi Ugiagbe-Green (Busiu@leeds.ac.uk)

Laidlaw Undergraduate Leadership and Research Scholarships
Academic-led Project Proposals 2020
Engineering and Physical Sciences

Project Title	Concrete for Automated Digital Fabrication
Project Description	Sustainable renewal and creation of new infrastructure is among the Global Grand Engineering Challenges of this century. 3D concrete printing is one part of the solutions. It has potential for mass customization, quality control and offsets the alarming construction skills shortage. Major challenges to commercializing the technology include (i) development of workable and consistent concrete mix compositions and (ii) implementation of reinforcement methods compatible with the extrusion technology. The fundamental science relating composition to structure and evolution is however lacking. Using parametric experiments coupled with advanced characterisation, this two-tier project will develop the underpinning scientific knowledge into the relationship between compositions, fresh and hardened properties of concrete for 3D printing. In the first year, the scholar will develop binder and admixture formulations for 3D printing - by measuring the rheological properties of the mixes, and analysing the physical and chemical processes during setting. In the second year, the scholar will apply the understanding from the first year to design concrete mixes, including reinforcement. These mixes will be used to manufacture real 3D printed test pieces and analyse their performance. The scholar will achieve these objectives by accessing state-of-the-art facilities at both Leeds and partner institutions.
Person Specification	Applicants should be studying Civil Engineering, Chemistry or Chemical Engineering. Experience of laboratory-based research and the enthusiasm for the same is essential given the experimental scope of the project. Knowledge and experience of materials characterisation including application of electron microscopy, spectroscopy and diffraction techniques would be desirable but not essential. Since the research is laboratory-based, applicants must be able to commit to being on campus for the majority of each 6-week placement.
Academic Lead	Sam Adu-Amankwah (S.adu-amankwah@leeds.ac.uk)

Project Title	AI for RoboCup@Home
Project Description	The RoboCup@Home is the most prestigious international robot competition for the service robots of the future. Its aim is to foster research into developing intelligent autonomous assistants for homes and offices. Following our recent success in the SciRoc challenge (https://athome.roboocup.org/) we intend to further develop the skills of our service robot (a Pal Robotics TIAGo http://tiago.pal-robotics.com/) to take part in this highly competitive international challenge. The development will focus on two aspects: effective collaborative human-robot interaction (HRI), and mobile manipulation. The first research period will be centred on methods that let humans and robots cooperate naturally towards a joint task. Since the physical capability of the robot is much more limited than humans' (and will be for the foreseeable future), cooperation is essential to carry out a number of useful tasks. Planning and representing human intentions is a crucial aspect of HRI that we will investigate. The second research period will be focused on autonomous interaction with the environment, taking advantage of the robot's mobile manipulator. The manipulation ability of service robots is generally rather limited. We intend to develop manipulation skills that allow the robot to collaborate physically with people, for instance in tidying up a room.
Person Specification	Passion for artificial intelligence and robotics. Good working knowledge of either Python or C++.
Academic Lead	Matteo Leonetti (m.leonetti@leeds.ac.uk)

Project Title	Improving orthotic garments for children with cerebral palsy
Project Description	Cerebral palsy (CP) is the most common cause of movement problems in children worldwide. Dynamic compression garments are used to improve posture and movement with reasonable results limited but comfort and usability make it difficult for children to wear for extended periods, so potential benefits of these garments are limited. The project aims to assess the issues with current garments, with the goal of developing a new material solution. Joining a multi-disciplinary project team, the scholar will work with several academics, over two research periods (RP1/RP2) to: <ul style="list-style-type: none"> • Undertake a literature review of the current approaches to CP compression interventions (RP1) • Develop a material and design specification for the garment through talking with users within focus groups (RP1) • Assess the mechanical properties and comfort of alternative material approaches (RP2) through simple experimental studies The role is key to developing a new solution, and the scholar will work with academics across engineering, physical sciences, design and medicine.
Person Specification	The applicant should: <ul style="list-style-type: none"> • Have good communication skills and be willing to give oral presentations • Be well organised and able to manage different priorities • Be proactive and able to plan their own time • Have experience of practical experiments • Be able to keep good records of their work
Academic Lead	Claire Brockett (C.L.Brockett@leeds.ac.uk)

Project Title	Physics Careers App
Project Description	<p>Many physics students don't have a good appreciation of the range of jobs you can do with a physics degree. So this project seeks to solve that! Building on a prototype 'Careers Web App' developed last summer, this project will extend and enhance the facilities of the app. You will talk with students to find out what they want. You will liaise with physics staff and careers officers to gather information and advice. You will search the internet to find information about jobs and internships open to physics students. This project is also collaborative with Liverpool University, so you will gain team working skills as well.</p> <p>The existing app asks students core questions about their career preferences such as: Do you want to work in a lab? Do you want to work with clients? Office based or travelling? Blue-sky or industrial applications? Public-facing or behinds the scenes? Dress smart or casual? It then links to relevant job suggestions and information. Your role will be to enhance this facility, adding links to case studies, jobs and internship adverts.</p> <p>This project develops your research skills, creativity, organisation and project management to produce a working product for wide dissemination to physics students from 1st year to final year, to help them survey the 'world of physics' and help them make smart choices to advantage them in their future career.</p>
Person Specification	<p>The project will involve the scholar being very involved with physics careers, and how physics students approach their employability. Much of this is generic to all students, but the appointed scholar must be comfortable with this field of work. Thus a student of physical science (Physics, Maths, Engineering, Chemistry) would be best for this project. But other students are welcome to apply, and would bring an interesting perspective to the work.</p>
Academic Lead	Alison Voice (a.m.voice@leeds.ac.uk)

Project Title	Quantum many-body scars: a new paradigm of order amidst quantum chaos
Project Description	A perennial mystery of nature is how order can exist amidst chaos. Familiar systems such as the clock pendulum exhibit regular periodic motion. This ordered behaviour, however, is fragile. For example, interactions between particles rapidly lead to chaos, forcing the system to thermalise and "forget" its initial state. This can be visualised as an ice cream that melts away and never finds its way back to the frozen state. "Quantum scars" refer to the surprising behaviour that defies such common intuition: for special initial states, the ice cream periodically melts away and then freezes up again. Recent experiments on ultracold Rydberg atoms have found evidence of similar behaviour where the atoms were able to return to their initial state many times during the measurement. Our recent work [Nature Physics 14, 745 (2018)] has proposed the first theoretical explanation for this phenomenon and named it "quantum many-body scars". At this point, the origins of quantum many-body scars largely remain a mystery. Your project will develop a computer simulation of quantum many-body scars in two-dimensional lattices of Rydberg atoms, with the goal of predicting future experiments on these systems that may unlock a range of applications in the emerging quantum technologies.
Person Specification	We seek talented and highly-motivated physics students to pursue this project in the general area of quantum many-body physics, which is a highly active subject at the interface of quantum information and condensed matter physics. A significant component of the project is numerical modelling of quantum many-body systems via exact diagonalisation and related techniques, thus the project is particularly suitable for those with strong interest in computational physics and numerical simulations.
Academic Lead	Zlatko Papic (z.papic@leeds.ac.uk)

Project Title	What helps students make a successful transition to university?
Project Description	Arriving at university can be overwhelming for some students. What will it be like? Am I good enough? Will I fit in? Will I make good friends? This project will analyse data from recent surveys of Physics students at 5 universities across the UK to look for key factors influencing students' sense of belonging and success. You will also research published literature on how students settle into university, what makes them feel they belong, that they are worthy, that they can succeed? The overall aim of the project is to inform and influence the teaching and support provided to students on a physics degree to enhance their sense of wellbeing, enjoyment and success. You will gain research and data analysis skills and help to contribute to the success of future generations of physics students.
Person Specification	The project will analyse data from physics students, and whilst this is about general student experience, it will be helpful to understand the types of activities these students undertake at university. Thus a student of physical science (Physics, Maths, Engineering, Chemistry) would be best for this project. Techniques in data analysis and literature searching will be given, but any experience with SPSS or Web of Science would be helpful.
Academic Lead	Alison Voice (a.m.voice@leeds.ac.uk)

Project Title	Inverse Problems and International Competition
Project Description	<p>Each week the scholar will be given some research material, e.g. article, chapter in a book, manuscript, to read and research in order to gain insight into the subject of inverse problems for integral equations (e.g. Fredholm and Volterra integral equations of the first and second kind), ODEs (e.g. Sturm-Liouville problems) and PDEs (e.g. spectral representation, harmonic analysis) and the new techniques (e.g. fixed point theorems, contraction mapping principle) for solving them. The scholar will have to synthesise the material and realise the connection with the teaching material covered in courses that he is currently taking and beyond the standard curriculum.</p> <p>In addition, in order to develop and enhance the scholar's mathematical brainpower and background he/she will have to attempt to solve a series of 5-10 selected problems mainly in mathematical analysis and algebra. Some of these problems may involve some unseen material beyond textbook and occasionally, will have some research material attached to it, e.g. writing a literature review, reading and understanding a research article, presenting the subject in a coherent and logical manner, etc. At the weekly supervisory meetings, solutions attempted by the scholar and other aspects of research will be analysed and discussed in detail.</p>
Person Specification	<p>The project will require a dedicated, motivated, talented and bright student with high first class results in Algebra and Analysis (essential), and Geometry and Combinatorics (desirable). In particular, prerequisites require having obtained (or in the course of obtaining) such high marks in one or more of the following modules (or equivalent):</p> <ul style="list-style-type: none"> <input type="checkbox"/> (Calculus and Mathematical Analysis), (Linear Algebra with Applications), (Introductory Linear Algebra); <p>The project will seek to shape future leaders in research by guiding a dedicated first class student to undertake research and prepare to take part in the International Mathematics Competitions (IMCs) for University students, see http://www.imc-math.org.uk. Over the past 26 years, students from more than 200 institutions and over 50 countries all over the world have participated in this series of competitions (organised by the University College London). In many ways, they mimic the Olympics event in sport.</p> <p>The stock of accumulated knowledge, research experience and leadership development will enable the scholar to undertake future postgraduate studies.</p>
Academic Lead	Daniel Lesnic (D.Lesnic@leeds.ac.uk)

Project Title	The evolution of kinase enzymes
Project Description	<p>Throughout the 20th Century major advances in understanding of human biology were made by studying "model organisms", such as mice, fruit-flies, parasites and yeast that are readily handled under laboratory conditions. Recent genomic advances are revealing unsuspected evolutionary links between branches of the "tree of life" that are usually believed to be widely separated. Our insight is that humans may have significant and unexpected evolutionary links with complex bacteria, including cyanobacteria.</p> <p>Kinases are enzymes that control the phosphorylation of, and thus the activation of, a wide range of proteins. Blocking kinases therefore has a very significant impact on cell cycle progression. For this reason, kinases are important targets for cancer therapeutics, which function by inhibiting specific kinases. Previous research in the Taylor group has explored the evolutionary origins of proteins that have kinase domains, but we have not yet undertaken phylogenetic analysis of the kinase domain itself. Our hypothesis is that the kinase domain in animals may have its evolutionary origins in complex bacteria, such as cyanobacteria. If we are able to find phylogenetic evidence for this, it will open the possibility of using cyanobacteria as simple model systems for the study of kinases and their inhibition.</p>
Person Specification	The successful candidate will have a high level of enthusiasm for interdisciplinary science at the frontier between chemistry and biology. Phylogenetic analysis is a computational approach, so no laboratory experiments are involved. The research methods will be new to most students but are easily acquired with training by anyone with a solid science background and a passion for discovery.
Academic Lead	Paul Taylor (p.c.taylor@leeds.ac.uk)

Environment

Project Title	Climate change and emergency response in the Arctic
Project Description	Temperatures have increased by ~1.9C in the Arctic over the past 30 years, a rate more than double the global average. Such 'Arctic amplification' is well documented, and has been accompanied by rapidly changing ice conditions, increasing storm intensity, permafrost thaw, and ecosystem shifts. Research illustrates the potential for increasing mass casualty incidents associated with the use of transformation systems in a rapidly changing climate, including aviation, the use of ice roads and semi-permanent trails between communities, and shipping. Despite this, there is limited understanding of how prepared Arctic communities, regions, and nations are to respond and manage these risks. The scholar will work with Prof Ford (Leeds) and Dr Sheri Harper (Alberta) to identify challenges, opportunities, and recommendations for emergency response in a rapidly changing climate. Focusing on Canada, Greenland, and Russia, the scholar will undertake a literature review, policy analysis, and conduct interviews, with potential for international travel and conference attendance. The work is expected to have policy impact.
Person Specification	The opening is an ideal fit for a student with interests in climate change, emergency response, and the Arctic. For the intellectually curious, the opening will have particular interest, because while the overarching project goals are established there is a lot of scope for the scholar to lead the work in new directions. The scholar will receive an interdisciplinary cross-cultural training, and is expected to have interest in using diverse methods. Knowledge of computer coding and programming is an asset, as the policy analysis will involve using machine learning approaches for policy analysis, and the scholar is also expected to be competent at doing interviews. The ability to speak Danish and/or Russian is not necessary but would be an asset
Academic Lead	James Ford (j.ford2@leeds.ac.uk)

Project Title	Eager about beavers? Quantifying and understanding killing of reintroduced beavers
Project Description	<p>Across the UK, there are multiple attempts at rewilding, a conservation approach which emphasises reducing human management of the environment, and restoring natural processes. A key part of this is reintroduction of locally extinct species, but such reintroductions can be controversial, particularly when the animals harm livelihoods, such as predators killing livestock or beavers altering rivers and flooding farmland. One reaction to this can be through killing, sabotaging or harming the animals in question. Whilst we know that this happens in the UK – for example, reintroduced beavers can negatively affect farmers, and they have been killed and their lodges damaged – we do not know the extent to which it happens nor the full reasoning of the perpetrators. This research would use sensitive questioning and survey techniques to quantify such acts, and to fully understand the worldview of those who chose to engage with them, and those who don't. It would involve several weeks of fieldwork in reintroduction sites, most likely beaver habitat in the Tay Valley, Scotland. By understanding how common such acts are, and the full rationale behind them, we can aim towards conservation measures that are both more effective and more just.</p>
Person Specification	<p>Essential for the job:</p> <ul style="list-style-type: none"> - An enthusiasm for undertaking fieldwork and conducting structured questionnaires - An ability to work under remote supervision, using their initiative where appropriate - Good interpersonal skills and fluent English speaker - A responsible worker, who can work safely and sensitively, including when handling sensitive data <p>We prefer a student with a familiarity with social sciences or environmental social sciences, but this is not essential.</p>
Academic Lead	George Holmes (g.holmes@leeds.ac.uk)

Project Title	Enhancing the impact of Fair Trade through Co-creation
Project Description	<p>Are you motivated to work on research that can work towards the Sustainable Development Goals? Do you want to enhance the impact of Fair Trade? This project provides an opportunity for first-hand experience of real world research that links the academic and practitioner worlds.</p> <p>The Scholar would work with the supervisor, the Global Impacts team at Fairtrade International and the Global Fairtrade Taskforce (involving practitioners across the world) to further develop a research, advocacy and development agenda. You would help plan and facilitate workshops involving Fairtrade producers, academics and practitioners to be held at the Fair Trade International Symposium in Mexico in June 2020, analyse the resulting data and contribute to producing policy briefs and other papers from the event.</p> <p>This builds on workshops and the development of training tools developed by the Supervisor and Fairtrade colleagues, including a board game</p> <p>(https://www.see.leeds.ac.uk/fileadmin/Documents/research/sri/briefingnotes/Justice_et_al._2018_SRI_Briefing_Note_No._17.pdf) and collaboration through membership of the steering group of the Fair Trade Symposium, the leading gathering of fair trade practitioners and academics.</p>
Person Specification	<p>The student would have a social science background, with an interest in qualitative methods of analysis.</p> <p>Good communicator and listener</p> <p>Interest in applied, practice based research</p> <p>Previous knowledge of fair trade through courses or involvement in the movement would be an advantage</p>
Academic Lead	Anne Tallontire (a.m.tallontire@leeds.ac.uk)

Project Title	Phosphorous-bearing minerals in pallasite meteorites – fingerprints of early solar system processes?
Project Description	<p>Pallasite meteorites are composed almost entirely of metallic iron and the silicate mineral olivine. There are no naturally occurring samples like these on Earth. As such, they are an enigmatic group of extra-terrestrial samples that may represent the core-mantle boundary of one or more planetesimals that were subsequently destroyed by a massive bolide. Given that it is impossible to directly sample the core-mantle boundary of Earth, these rare meteorites potentially allow us to explore the physical processes and accompanying geochemical signatures that are associated with planetary evolution.</p> <p>This project will investigate the nature and significance of rare phosphorous-bearing minerals (phosphates and phosphides). These are observed in many of the ca. 60 pallasites known worldwide (we have 10 of these in our collection). From this study, we hope to determine what phosphates and phosphides can tell us about the formation of pallasite meteorites and whether this group of meteorites really do provide a useful analogue for core-forming process on Earth</p>
Person Specification	<p>The willingness and potential to undertake delicate chemical analyses is essential for this project. It is by no means expected that the successful candidate would already have significant experience in this field - thorough training in cutting edge geochemical methods will be given and the scholar will be supervised throughout – we realize that these are not necessarily off-the-shelf skills, but the right candidate will acquire them! The most important attributes in a candidate are curiosity, tenacity and a can-do attitude</p>
Academic Lead	Jason Harvey (feejh@leeds.ac.uk)

Project Title	Investigation of road design and traffic management in Brazil for road safety
Project Description	<p>Many factors contribute to road safety in developing countries, such as road geometry, surface condition, traffic rules and enforcement, and road user behaviour. This Scholarship project will focus on the effects of road design and traffic management on road safety in Brazil.</p> <p>In the first period (summer 2020), road design and management in the UK that have safety implications, will be studied. Candidate will identify the key factors via literature review, case studies, and consultation with experienced academic staff, who will help with benchmark the practice in Brazil. This period involves a research placement at Newcastle University for 3 days.</p> <p>An investigation into the causation of road accidents and reduction measures will need local knowledge and primary data. Surveys, in person or on-line, are an effective way of obtaining the required data, and will be carried out in the second period (summer 2021), which involves a research visit to University of Sao Paulo, Brazil for 5 days.</p> <p>Work is normally campus-based unless otherwise agreed. A report will be required, at the end of each period, which feed into ongoing doctoral research at ITS, examining the measures to protect vulnerable road users. Publications of project findings are also encouraged.</p>
Person Specification	<p>The candidate will show a motivation to undertake the research tasks. Pre-knowledge in highway design and road safety is desirable but not essential. Evidence of skills in data analysis is essential.</p> <p>He or she will have good communication (written and oral) skills, and evidence of undertaking work independently as well as in a team. Knowledge of Portuguese language is a bonus to the scholarship.</p> <p>The candidate is expected to have an interest in further study in transport and road safety.</p>
Academic Lead	Yue Huang (y.huang1@leeds.ac.uk)

Project Title	Queer Memorials: A Critical Inquiry into Processes of Inclusion and Exclusion of Sexual Difference
Project Description	<p>You will be provided with the unique opportunity to work directly with Dr Martin Zebracki, Principal Investigator of the Research Council-funded project Queer Memorials: International Comparative Perspectives on Sexual Diversity and Social Inclusivity (QMem) http://www.queermemorials.org</p> <p>You will work on a systematic analysis of a selection of not yet (fully) analysed transcriptions of interviews with key policymakers, public officials, activists, publics, etc., which have already been conducted as part of QMem’s case studies within the contrasting contexts of Amsterdam (the Netherlands), New York (USA) and Warsaw, (Poland). You will present your research findings to the wider geographical research community at a major London-based geography conference in 2019. Moreover, you will take on a new geographical and comparative project component by undertaking a Leeds-based case study about LGBTQ/queer memorialisation and organising on the Leeds campus and in the wider urban context of Leeds. You will collect and analyse print and online secondary materials as well as conduct interviews with local key actors (estimated at 10). Accordingly, you will receive relevant qualitative research training in the collection and analysis of secondary and primary data.</p> <p>Also, you will be offered the possibility for collaborative writing and co-authoring publications that draw substantially from your work.</p>
Person Specification	<p>This project seeks a Scholar who:</p> <ul style="list-style-type: none"> • has a strong interest in the project theme at the intersection of sexual diversity, social inclusivity and LGBTQ/queer memorialisation; • is a meticulous worker willing to learn new approaches in qualitative research methods and techniques, involving the collection and analysis of secondary data (including archival material and social media data) and primary data (including interviews). • has excellent verbal communication skills to conduct interviews and present findings; • is eager to develop a deeper understanding of the process of academic research (including internationally comparative research), collaborative writing, and academic publishing; • is willing and able to work and conduct research collaboratively and in a largely independent capacity.
Academic Lead	Martin Zebracki (M.M.Zebracki@leeds.ac.uk)

Project Title	Rocking diversity – how representative is the UK’s geodiversity conservation portfolio?
Project Description	<p>The UK government, like governments around the world, protect certain places for their geodiversity, having unique, rare or particularly characteristic geological or geomorphological features. There are questions of how such sites have come to be created, and whether this is the best way of preserving vital geodiversity. Drawing on parallel debates from biodiversity conservation about how well-planned conservation sites might be, this research would aim to explore the representativeness of the UK’s geodiversity conservation sites. It would ask questions like: are certain geological or geomorphological features more or less likely to be conserved? Are certain regions of the UK over or under-represented? Are certain types of feature under better conditions of conservation than others? This project would allow us to explore how good the UK’s geodiversity network is at protecting valued sites.</p> <p>The project requires some basic understanding of geomorphology and geology, so is best suited to students on disciplines such as geography, geology and environmental science. It also requires a basic understanding of geographical information science software.</p>
Person Specification	<p>We require someone with a basic knowledge of geology/geomorphology, ideally studying geology, geography, environmental science, or a related discipline, and someone with a basic knowledge of GIS.</p> <p>We also require someone who can work as part of a team and show initiative. The project will likely be desk-based in Leeds, but may require travel to conferences later to present the work.</p>
Academic Lead	Phillip Murphy (p.j.murphy@leeds.ac.uk)

Project Title	The pedestrian environment and new mobility services: mixed messages?
Project Description	<p>The Scholar will work with the supervisors to gather and analyse data on the pedestrian experience in Leeds (focused on pre-selected locations), using a mix of methods including focus groups and on-street fieldwork: non-participant observation of behaviours of different types of road users and taking photographs of the walking environment (e.g. pedestrian infrastructure, fencing, pavement clutter, pavement parking, cleanliness and lighting), and utilising mapping to visualise the results.</p> <p>The Scholar will gain in-depth knowledge of mixed methods research combining qualitative documentary methods with visual methods as well as mapping. There are opportunities to lead discrete elements of the work (for example facilitating focus groups), as well as attend and participate in an academic conference, and learn vlogging skills. The project builds upon and creates further links between an ECR fellowship and a UAF project in ITS through this proof of concept study which may later be valuable in the justification of a research proposal at the cutting edge of active travel and urban realm research.</p>
Person Specification	<p>The Scholar will require to have a minimum academic performance of a high 2.1, and to have evidence of previous experience in leadership-relevant activities in order to be able to undertake the anticipated work programme. The work programme outlined above is rigorous but focused on supporting the successful Scholar to attain their educational aspirations, develop their professional capability and succeed to their fullest.</p> <p>The Scholar should be interested in transport and walking as geographic and social phenomena with political dimensions and implications for climate change, sustainability and social justice, rather than as solely technical domains. Therefore an ambition to learn and practice mixed methods social research skills are likely to be most relevant. Existing knowledge of mapping software, ethnographic fieldwork and focus group design is desirable but training and support will be available.</p> <p>The Scholar should be interested in studying aspects of sustainable transport or urban planning at Masters and PhD level. The Scholar should be available to visit fieldwork sites in Leeds, and willingness to travel to RGS conference in Years 1 and 2 would be desirable (London in Year 1, tbc in Year 2). An alternative UK conference may be possible subject to suitability, timing and budgetary constraints.</p>
Academic Lead	Kate Pangbourne (k.i.pangbourne@leeds.ac.uk) and Ian Philips (i.philips@leeds.ac.uk)

Project Title	The rising tide of double diabetes
Project Description	<p>The term 'Double Diabetes' has been used to describe people with Type 1 Diabetes (T1D) who are overweight and present with features of Type 2 Diabetes (T2D) or metabolic syndrome. These individuals are at a higher risk of diabetes complications, thereby increased diabetes-related morbidity and mortality. Despite the documented increased risk of complications there are no established treatment guidelines for this group of patients. You will play a fundamental role in characterising the risk profile of this patient group and establishing the efficacy of implementing a dietary intervention. You will work across the School of Food Science and Nutrition and the School of Medicine at the University of Leeds in Period One, and have the opportunity to extend this project into a second year (Period Two). You will collect and analyse nutritional data and will have the opportunity to present at an international conference. This unique opportunity will give invaluable insight and experience of working on a National Institute of Health Research (NIHR) funded programme of clinical research in a high-risk patient group, and a contribute to a programme of work addressing a major 21st Century public health priority. Further, you will benefit from mentorship from an international research team renowned globally within this field</p>
Person Specification	<p>The student should have confidence to work with autonomy, flexibility, and independence as part of a larger team. The student should be able to develop their own questions and pursue their own lines of thought with critical enquiry. As this project involves working with a challenging patient group, perseverance, persistence, determination, dedication, tenacity, resilience, and endurance should be combined with a keen sense of empathy. As well as solid academic foundation, it is key that the student demonstrates excellent pragmatism and an ability to convey complex ideas simply to a range of audiences. Time management and organisational skills should be well established meaning that they can meet deadlines and pay close attention to detail. Importantly, the student should have a keen sense of enthusiasm, passion, and a curiosity to learn.</p>
Academic Lead	Matthew Campbell (m.d.campbell@leeds.ac.uk)

Project Title	The rock record of earthquakes: what processes are evident in microstructures?
Project Description	<p>Earthquakes are a complex hazard that can have a devastating impact on populations living near active faults. Improving our ability to forecast how fault zones behave through time is of major importance. However, we have still have gaps in our understanding of the physical mechanisms that control how and when earthquakes happen. We have many observations of faults on different spatial scales – from satellites to microstructures – and temporal scales – from millions of years in the geological record to microseconds in experiments. However it is very rare that observations from different spatial and temporal scales are combined to understand the processes that occur on faults during and between earthquakes. This project will attempt to do just that by combining observations of real faults from samples in Italy and Turkey with results from fault slip experiments.</p> <p>The results of this project will have important implications for our understanding of earthquake dynamics. We expect the results and interpretations to be publishable in an international journal. You will be part of an active group of researchers and students at SEE that focus on earthquake dynamics including experts in active faulting and microstructural investigation of rocks and minerals.</p>
Person Specification	<p>We would like to work with an enthusiastic and driven student, who enjoys pulling observations from different disciplines and has an interest in hazard. It is not necessary that the student has prior experience in the particular techniques that will be involved, but good observational skills will be helpful. You should have an earth science, materials science, or physical geography background, and enjoy working on topics in structural geology, tectonics, or microscopy. You may not have any experience with analytical techniques, but be willing to learn and work responsibly. A drive to work independently, and not be let down by research challenges, will also be beneficial, and excellent communication skills are preferred.</p>
Academic Lead	Laura Gregory (l.c.gregory@leeds.ac.uk)

Medicine and Health

Project Title	An evaluation of how the MIMOS study has complied with the Survivors Charter
Project Description	Using the NIHR funded MIMOS study (evaluation of sexual assault referral centre study) as a base for the project, the student will (with support) develop a semi structured interview schedule, then undertake 10 interviews with researchers and lived experience consultants (not research participants) working on the MIMOS study in order to evaluate how the team has successfully implemented the values of the Survivors Voice “Charter for Engaging Survivors in Research”. The main output would be a conference presentation at the European Conference on Mental Health and a peer reviewed paper.
Person Specification	The person should be familiar with issues faced by people who have experienced trauma and mental health issues and have empathy and interest in this topic. They will be required to have excellent interpersonal skills and be confident in undertaking a semi-structured interview. They will need to be organised, self-motivated and excellent time management skills.
Academic Lead	Elizabeth Hughes (e.c.hughes@leeds.ac.uk)

Project Title	Psychological Literacy: A Review and Critical Appraisal
Project Description	<p>Psychological Literacy (PL) is an emerging approach in Psychology teaching and learning which encourages students to use their understanding of psychological theory to tackle ‘real world’ problems. This is an exciting new area of psychological research, which is shaping how university lecturers critically think about the purpose, structure, and content of psychology teaching. However, it is unclear whether this approach improves student learning and engagement.</p> <p>The Laidlaw Scholar will be responsible for conducting a systematic review of the literature surrounding PL, which will provide a useful synthesis of work to date. Then, the findings of the systematic review will shape and guide an empirical research project.</p> <p>The scope, design, and method of this empirical research element will be decided in partnership with the Laidlaw Scholar and the supervisory team, in light of the review findings. Therefore, there is a large element of autonomy involved in this project. This work will form a novel and important contribution to this field.</p> <p>It is expected that this work will be presented to the Research in the Psychology of Student Education (RitPoSE) lab meetings, the international ESPLAT conference, and will be disseminated in peer-reviewed publication. This will be supported by the supervisory team.</p>
Person Specification	<ul style="list-style-type: none"> • Ability to work independently • Interest in approaches to psychology teaching and learning • Highly organised and ability to manage time well • Systematic review training will be arranged, so this is not essential. However, an awareness of the purpose and structure of systematic reviews would be useful.
Academic Lead	Richard Harris (R.J.Harris@leeds.ac.uk)

Social Sciences

Project Title	Brexit discourses and the British national identity: the war of position over the UK's place in the world
Project Description	The scholar will help to collate and code a qualitative dataset, using tools such as Lexis Nexis and NVivo software. The scholar will also help with literature reviews, preliminary analysis, and potentially drafting and editing articles. The scholar will also be given the chance to oversee the work of one or two additional undergraduate student coders, helping to manage a small research team and take the lead on intercoder reliability checks. Finally, the scholar will have the opportunity to present the research at a national and international conference (BISA and EISA) and will be named as a co-author on the research outputs.
Person Specification	<p>you will have:</p> <ul style="list-style-type: none"> - General expertise in social science research methods; - A high level of interpersonal and communication skills; - Experience of effectively organising own work, balancing competing pressures and prioritising as appropriate; - Excellent organisational skills with a demonstrable ability to manage time effectively to prioritise tasks and meet internal and external deadlines; - Good word processing and general IT skills; - The ability to work independently on own initiative but also successfully as a team member. - The ability to oversee the work of a small research team. <p>You may also have:</p> <ul style="list-style-type: none"> - Experience using NVivo; - Demonstrable research expertise or interest in UK politics or foreign policy; - Demonstrable research expertise or interest in qualitative data analysis and/or discourse analysis.
Academic Lead	Jack Holland (j.holland@leeds.ac.uk)

Project Title	Emerging Trends in Innovative Learning and Teaching Spaces
Project Description	<p>To identify and assess emerging trends in the design and use of innovative learning and teaching spaces (ILATS) for the delivery of the core subjects of an undergraduate law degree.</p> <p>The scholar will take account of different learning and teaching formats and methods (eg, lectures, seminars, workshops, team- and problem-based approaches).</p> <p>The scholar will also take account of how ILATS can and should take account of neurodiversity among students, in the broad sense of recognising different personality types (eg, 'extroverts' and 'introverts') as well as more specific conditions (eg, dyslexia, dyspraxia, cerebral palsy and autism).</p> <p>The scholar will also identify and assess different approaches to learning technology, furniture, lighting, acoustics, temperature and air quality control.</p> <p>Research will be carried out by accessing on- and off-line resources (including those accessible via the University of Leeds Library service). The scholar may seek to inform and supplement their research by engaging directly with some of those involved in the design, provision and use of ILATS, such as architects, university estate planning and law academics, as well as observing examples of ILATS at other universities in the UK. The scholar will also reflect, and draw, on their own experience of different learning and teaching spaces.</p> <p>The scholar will be expected to present their research at a workshop attended by law academics and to consider wider dissemination through submission of an article to an academic journal.</p>
Person Specification	The scholar should be a law student, ie with experience of at least some of the core modules of a law degree, who will be motivated by the research and is able to work independently and exercise initiative.
Academic Lead	David Pearce (lawdp@leeds.ac.uk)

Project Title	Exploring the Changing Profile of Poverty
Project Description	<p>This project offers an exciting opportunity for a Laidlaw scholar to contribute towards research exploring the changing profile, depths and realities of poverty in the UK today. You will undertake research activities to help answer the following research questions: How has the profile and depth of poverty changed in the UK since 2008? How are these trends related to the changing socio-demographic characteristics of ‘the poor’? What are the causes, effects and everyday realities of ‘deep poverty’?</p> <p>To do this, you will work closely with the project supervisor (Dr Daniel Edmiston) to undertake the following:</p> <ul style="list-style-type: none"> - produce and interpret descriptive summary statistics on changes in the living standards and demographic characteristics of low-income households; - summarise key research findings through the production of a short working paper, including an executive summary; - assist in the production and dissemination of infographics and gifs that visually represent the key findings from the report; - attend a policy roundtable event to participate in the launch of the report; - undertake a literature review on the category and experience of poverty; and - analyse qualitative data on lived experiences of ‘deep poverty’. <p>The scholar will receive tailored training and guidance to support their research activities.</p>
Person Specification	<p>The successful scholar for this position will have a proven track record of excellent academic standing. The scholar will have to demonstrate a range of core competencies, including the ability to:</p> <ul style="list-style-type: none"> - analyse and interpret basic descriptive summary statistics (or a willingness to learn); - summarise key research findings in writing for academic and non-academic audiences in a clear and concise manner; - visually represent summary statistics and social trends through the production of graphs, tables and charts; - communicate effectively and regularly with the project supervisor and wider research group; - liaise with internal stakeholders at the University of Leeds to support the dissemination of research outputs; - work independently, problem-solve and use your own initiative, whilst receiving and responding to feedback, support and guidance at regular intervals; - read academic literature and summarise key themes that emerge in relation to a set of research questions; and - capitalise on training and development opportunities to be made available such as attending a policy roundtable event, training and the UK Social Policy Association conference.
Academic Lead	Daniel Edmiston (D.Edmiston@leeds.ac.uk)

Project Title	REACH Primary: Understanding Pupils Reading and Comprehension
Project Description	<p>REACH Primary are offering an opportunity to contribute to a high-impact reading intervention that is helping struggling readers across the North of England.</p> <p>There are two essential elements to becoming an accomplished reader. Firstly, a child must be able to decode the words on the page. They must be able to recognise that letters (and patterns of letters) map on to particular sounds (phonemes), and these sounds create words.</p> <p>By itself this doesn't constitute 'reading' unless the pupil recognises those words have meanings. Words build into sentences, sentences into paragraphs, and paragraphs into texts – all adding nuance and subtlety to what we can comprehend from what we're reading. REACH Primary focuses on both the 'reading intervention' (i.e. decoding text on a page) and comprehension (understanding meaning).</p> <p>We will be collecting data from schools using two tests in spring/summer 2020. We will have data on each child's reading ability and comprehension. This project will allow a scholar an opportunity to learn about the standardised tests we're using, to learn how to analyse the data, to be able to categorise the kinds of errors pupils make while reading (similar to the work of educational psychologists and SEND specialists), and to conduct a qualitative analysis of the results. This will feed directly into our understanding of how REACH Primary has impacted students.</p>
Person Specification	<p>The scholar should be able to demonstrate:</p> <ul style="list-style-type: none"> - an interest in the development of children's reading (possibly through their choice of degree, volunteering with children's work or in a school, a job in a school/library/bookshop, or through a potential future career). - initiative - problem solving - organisation (possibly through the management of records or data, perhaps as a volunteer, a member of a university society, a job role, or a personal situation (e.g. as a parent or carer)). - Able to work confidentially with data (possibly through having access to sensitive information in a previous role, or being aware of GDPR). - Excellent written skills (possibly through exam grades in essay-based subjects, writing reports for other organisations, or a writing-based hobby).
Academic Lead	Peter Hart (p.j.hart@leeds.ac.uk)

Project Title	Re-Integrating Terrorists: public perceptions of re-integration programmes
Project Description	The recent phenomenon of returning foreign fighters has encouraged a greater emphasis on the need to re-integrate people suspected/convicted of engaging in acts of terrorism. Existing research focuses on the content of programmes that aim to facilitate re-integration and how to ensure re-integration is effective, yet there is little understanding of how the public perceives these re-integration programmes. Public perception of re-integration is significant because a public backlash can undermine the effects of a programme and it can challenge the efforts to re-integrate programme participants. Therefore the aim of the project is to understand public perceptions of government efforts to re-integrate convicted terrorists. The research will provide insights into how programmes can be designed and delivered to maximise the support of society generally and key stakeholders specifically. The scholar will gain experience in using qualitative methods, conducting focus groups in the local area and writing up transcripts for analysis. In the second period, the scholar will assist with an experimental survey, working on the design of the survey, conducting it online, and assisting with the analysis of data.
Person Specification	Person Specification: <ul style="list-style-type: none"> • An ability to show initiative and to be able to respond positively to problems and set-backs is essential • An ability to work well in a team and act upon feedback is essential • Evidence of an ability to perform well academically (e.g. assessment grade) • Experience with quantitative methods at a basic level, or an ability to learn such methods, is essential (Enrolment in the Q-Step programme would be acceptable) • Experience in conducting interviews or evidence of skills related to conducting focus groups is essential • Knowledge of re-integration programmes, de-radicalisation, DDR is desirable
Academic Lead	Gordon Clubb (g.clubb@leeds.ac.uk)

Project Title	Understanding inclusive learning spaces
Project Description	<p>This is an exciting opportunity to gain research and leader skills and build partnerships within wider university networks. The scholar will join a team committed to creating inclusive spaces in which all students can reach their potential.</p> <p>Research shows (Reay, 2003, 2006, 2015. Ball, 2016), how some students experience higher educational differently dependent upon their class background. However, as we have come to know the dominant ideology as 'normal', many learners continue to experience university from an "othered" position.</p> <p>Changing Perspectives began in 2018 as a student led initiative to change the way that marginalised students are perceived by the university community, but also and perhaps more importantly in terms of how they see themselves. There have been great gains in the recognition of working-class students on campus, however, little research has been carried out to understand the lived experience of feeling 'like an outsider on the inside'.</p> <p>The scholar will have the opportunity to inform this new body of research towards creating a vision of what an inclusive university could look like. Drawing upon examples of the positive value of widening participation in creating new ways of seeing in academia.</p>
Person Specification	<p>The successful scholar should have the following skills, attributes and interests:</p> <ul style="list-style-type: none"> •be highly motivated and organised. •have excellent writing and research skills. •have good communication skills. •be punctual and able to work to deadlines. •be interested in a core principle of inclusive education. •be interested in the aims of the project. <p>It is a requirement of the post that the scholar must have entered their degree programme through one of the following; Access to Leeds, Foundation degree, BTEC or be a member of The Plus Programme.</p>
Academic Lead	Simon Lightfoot (S.J.Lightfoot@leeds.ac.uk)

Laidlaw Undergraduate Leadership and Research Scholarships
Academic-led Project Proposals 2020



Project Title	Zygmunt, Teaching and the History of Sociology
Project Description	<p>In the History of Social Thought, the history of sociology and history of ideas more generally, the role of teaching in the intellectual development of our canonical figures is hugely under-researched area leaving us with a partial, perhaps even distorted history of our discipline, and the development of its ideas. This project aims to take a small step towards rectifying this. It will be focused upon one most sociology's most prominent figures Zygmunt Bauman, whose newly opened archive is housed in the University of Leeds special collections.</p> <p>The scholar would have the exciting opportunity to conduct archival research in this new archive and conduct a small number of interviews with retired academic staff members who were taught by and/or worked with Zygmunt Bauman. The focus of such interviews would be on the curriculum taught by Zygmunt Bauman and his attitudes towards student education and the curriculum.</p>
Person Specification	The scholar needs to have an interest in the history of sociology, history of social thought or history of ideas. The scholar should be excited by the opportunity to conduct archival and qualitative research. The scholar needs to be able to listen empathetically, have good time management skills, be reliable and professional and have the capacity to travel locally.
Academic Lead	Tom Campbell (t.w.campbell@leeds.ac.uk)

Project Title	Online Political Discourse in the US General Election: Preliminary Analysis of the Early Election Period
Project Description	<p>This project analyses the nature and source of online discourse in the US Presidential election, contributing to debates about the place and effects of social media in modern politics. This project is modelled on previous research by the supervisor on political events in the US, China, France and India. The scholar(s) will examine data collected from Twitter in early 2020.</p> <p>Scholar(s) will begin by examining trending topics from across the continental US to ascertain whether they concern the election and if so their candidate and party affiliation. Based on this trend coding, student(s) will then code a random selection of tweets made in election trends on a variety of metrics including the type of speech; how it might align with different normative standards of information discourse; whether it is hyperpolarising, hate speech or misinformation; and the source of information being shared.</p> <p>Student(s) will also be tasked with creating short case study briefs on the information shared online surrounding key events during that election period. Student(s) will be given the opportunity to draw from their content analysis work and the developed case studies to write short posts for the Centre for Democratic Engagement blog.</p>
Person Specification	<p>In addition to students in Politics and International Studies, students in Media and Communications and any other student able to demonstrate meeting the criteria below, are encouraged to apply.</p> <p>As a scholar, you will have:</p> <ul style="list-style-type: none"> - General understanding of social science research methods and the process of producing research; - A high level of interpersonal, communication and written skills; - Experience of effectively organising own work, balancing competing pressures and prioritising as appropriate; - Excellent organisational skills with a demonstrable ability to manage time effectively to prioritise tasks and meet internal and external deadlines; - Good word processing and general IT skills, in particular working in Excel or other spreadsheet software; - Willingness to undertake detailed work analysing a large set of social media data; - The ability to adhere to the ethical and data management protocols of the project; - The ability to work independently on own initiative but also successfully as a team member. <p>You may also have:</p> <ul style="list-style-type: none"> - Demonstrable experience or interest in US politics and/or technology and politics; - Demonstrable experience or interest in content analysis, discourse analysis and/or computational social science.
Academic Lead	Gillian Bolsover (g.bolsover@leeds.ac.uk)