

# Philip Leverhulme Prizes Gala Dinner 2020

PROGRAMME

# Welcome to this celebration of the Philip Leverhulme Prize Winners for 2019



The Philip Leverhulme Prizes commemorate the contribution to the Trust made by the Third Viscount Leverhulme, grandson of William Hesketh Lever, the founder of the Trust. They recognise the achievements of outstanding researchers whose work has attracted international acclaim and whose future career is exceptionally promising. Since their inception in 2001, the prizes have borne eloquent witness to how the UK has benefited from being open to academic talent from around the globe. Many previous winners have gone on to become distinguished leaders in their fields – and to secure further funding from the Trust. The 2019 winners have been involved in ground-breaking research and we congratulate them and celebrate their achievements tonight.

A handwritten signature in blue ink, appearing to read 'Niall FitzGerald'.

— Niall FitzGerald KBE DSA  
Chairman of the Leverhulme Trust

# Order of proceedings

- 6.30PM Wine reception
- 7.15PM Welcome
  - Niall FitzGerald KBE DSA
  - Chairman of the Leverhulme Trust
- 7.30PM First course
- 7.50PM Presentation of Philip Leverhulme Prizes 2019
  - Professor Dame Hermione Lee
- 8.10PM Dinner service resumes
- 8.30PM Presentation of Philip Leverhulme Prizes 2019
  - Professor Dame Hermione Lee
- 8.45PM Closing remarks
  - Professor Dame Hermione Lee
- 8.50PM Dinner service resumes
- 10.00PM Carriages

# Professor Dame Hermione Lee



Hermione Lee was President of Wolfson College from 2008 to 2017 and is Emeritus Professor of English Literature in the Faculty of English at the University of Oxford. She is a biographer and critic whose work includes biographies of Virginia Woolf (1996), Edith Wharton (2006) and Penelope Fitzgerald (2013, winner of the 2014 James Tait Black Prize for Biography and one of the New York Times best 10 books of 2014). She has also written books on Elizabeth Bowen, Philip Roth and Willa Cather, *Biography: A Very Short Introduction* (OUP), and a collection of essays on life-writing, *Body Parts*. This year she will publish a biography of Tom Stoppard. From 1998 to 2008 she was the Goldsmiths' Professor of English Literature at Oxford. She is a Fellow of the British Academy and on the Council of the Royal Society of Literature, as well as a Trustee of the Wolfson Foundation and a Foreign Honorary Member of the American Academy of Arts and Sciences. In 2003 she was made a CBE and in 2013 she was made a Dame for services to literary scholarship.



# About the Philip Leverhulme Prizes 2019



Thirty prizes are awarded every year to mark the achievements of outstanding researchers across a range of disciplines. The winners each receive £100,000 to be used over a two or three year period for any scholarly purpose which can advance the prize-holder's research.

In 2019, prizes were awarded to researchers in the fields of Archaeology, Chemistry, Economics, Engineering, Geography and Languages and Literatures.

# Archaeology



## Dr Kate Britton

Department of Archaeology  
University of Aberdeen

Kate Britton combines a flair for the scientific analysis of the chemistry of human and animal remains, with a sensitive understanding of cultural difference and an appreciation of the problems and potentials of archaeological evidence. Dr Britton has carried out important experimental work aimed at understanding the links between diet, movements and skeletal chemistry, which has helped set stable isotope analysis in archaeology on a new footing. Her work with Yup'ik archaeology in Alaska has sought to understand the nature and impact of past and present climate change, particularly on subsistence practices. In addition, she has carried out important archaeological analyses of mobility and diet on a range of periods from the Palaeolithic to the medieval and on topics including reindeer migrations and the breastfeeding of human infants. Her future plans include research into Scotland's Ice Age past and what can be learned about life in historic North Sea cities from the analysis of human skeletal remains.





## Dr Enrico Crema

Department of Archaeology  
University of Cambridge

Enrico Crema is the leading expert internationally among a younger generation of archaeologists that is pioneering the development and application of novel computational, quantitative and modelling techniques to address the uncertainty and shortcomings of the archaeological record. The work depends on a combination of theoretical insight, deep understanding of archaeological evidence and computational ability that is extremely rare. His development of computer simulation methods tailor-made to cope with the idiosyncratic nature of the archaeological record, especially the uncertainty of archaeological dating, has benefitted archaeologists working in many different contexts. The same is true of his development of new statistical tools to use large collections of radiocarbon dates as a proxy for measuring past population dynamics. The latter work has led to the creation, with a colleague, of a software package that has been downloaded over 6,000 times.



## Dr Jessica Hendy

Department of Archaeology  
University of York

Jessica Hendy is leading a new generation of archaeologists who are applying molecular techniques to address social and cultural questions of the past; questions that were previously intractable. Her research focuses on understanding past diets and cuisines through the study of ancient ‘food’ proteins that become entrapped on the surface of pots during food preparation or within dental calculus during its consumption. She has attracted worldwide attention for the identification of prehistoric milk proteins, revealing the species of animals exploited for their milk as well as insights into early dairy technology. The study of ancient proteins, ‘palaeoproteomics’ brings an exciting new angle to studying cuisine and consumption but the field is still in its infancy. This Philip Leverhulme Prize will support Dr Hendy to establish the groundwork necessary to assure the reliability of the approach and assess the limits of molecular preservation in a wide range of time periods and archaeological contexts.



## Dr Jane Kershaw

School of Archaeology  
University of Oxford

Jane Kershaw is a rising star in medieval archaeology, bringing new social perspectives to the study of Viking Age Europe. Her doctoral research on Viking artefacts revealed the significant role of women from the Viking homelands in the Scandinavian settlement of Britain, confirming that the Viking expansion was a large-scale migration of people rather than merely a (masculine) military campaign (*Viking Identities*). Her current research applies innovative perspectives from archaeological materials science to the study of Viking artefacts from across Europe to challenge existing theories on the economic origins of the Viking Age. She has also engaged in debate with genetic studies of contemporary populations and what they may (or may not) reveal about early medieval migration. Her research has been recognised by prestigious fellowships from the Leverhulme Trust, the British Academy and currently a European Research Council Starting Grant on Viking silver and the silver economy.



## Dr Ben Russell

School of History, Classics and Archaeology  
University of Edinburgh

Ben Russell is a pioneering scholar on Roman stone quarrying, trade and use as a commodity and on ancient craftsmanship and techniques more generally. Drawing on both supreme knowledge of ancient material evidence and written sources as well as modern sociological and economic theory, he has taken the practical aspects of Roman production out of their former niche existence and demonstrated their significant contribution and relevance to our understanding of the Roman economy and of Roman social history more broadly. His 2013 monograph *The Economics of the Roman Stone Trade* (OUP) is widely praised as an essential reference work and landmark study and his work on ‘Makers and Making’ has hugely inspired new research. His most recent project continues his interest in building activities but takes him in an entirely innovative and original direction. It focuses on types of construction that were as ubiquitous as they are now neglected: earth and turf construction.

Chemistry



## Dr Artem Bakulin

Department of Chemistry  
Imperial College London

Artem Bakulin is a Royal Society University Research Fellow and outstanding physical chemist who develops and applies ultrafast spectroscopy techniques to provide a new level of understanding of molecular excited-state dynamics. He is internationally recognised for his work in applying these advanced spectroscopy techniques to molecular semiconductors and devices. In particular, the development of ‘pump-push photocurrent spectroscopy’ is regarded as an important and impactful breakthrough for the understanding of real electronic devices. His work is characterised by a willingness to tackle difficult and technically challenging problems combined with a choice of technologically relevant problems to address. He has published extensively in quality journals and his work is highly cited. The innovative nature of his work and the strong combination of fundamental science allied with relevance to applications is outstanding.





## Dr Thomas Bennett

Department of Materials Science and Metallurgy  
University of Cambridge

Thomas Bennett is a materials chemist who has invented a whole new field of hybrid glasses based on an exciting type of solid called metal-organic frameworks – the first new broad class of glass to be discovered since the 1970s. Bennett's discovery that these crystalline solids can melt to form porous liquids was a surprise to the community and has stimulated great interest. His subsequent work showing that the liquids quench cool to form glasses has changed the way we think about these fascinating materials and opened up a wealth of opportunities in coatings and optically active solids where we are looking for properties intermediate between traditional brittle inorganic glasses and softer polymer-based glasses.

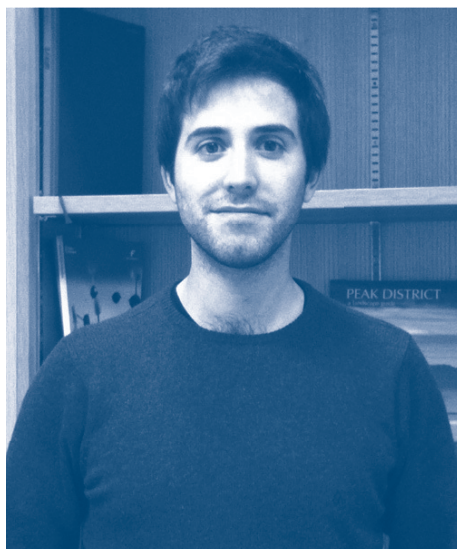


## Dr Kim Jelfs

Department of Chemistry  
Imperial College London

Kim Jelfs conducts pioneering research on the development of computational approaches for the discovery of porous materials and for prediction of their properties. She has a remarkable track record and has made highly significant contributions to the computationally led discovery of porous cage structures. Her work is equally leading for other porous materials, including organic polymers, amorphous materials and metal-organic frameworks. The adaptability of her scientific strategy has been demonstrated with her recent investigations of organic electronic materials in which she demonstrates the exploration of the energy–structure–function landscape of solid-state materials to inform and direct the design of new molecules for organic electronics.





## Dr Daniele Leonori

School of Chemistry  
University of Manchester

Daniele Leonori has adopted nitrogen-centred radicals as a major theme of his work and has illustrated numerous novel approaches involving photoredox chemistry with a wealth of applications. This includes (i) the preparation of amidyl radicals from aryloxyamides using eosin Y and deployment of these radicals in N–C bond formations to arenes and alkenes, (ii) reductive and oxidative routes to iminyl radicals and transposition of these radicals to carbon radicals that can then be functionalised with a variety of functional groups, including fluorine atoms and (iii) generation of aliphatic amine radical cations for regioselective arylation reactions. His papers are highly cited and illustrate diversity of chemistry, originality of thought and excellent mechanistic insights.



## Dr Silvia Vignolini

Department of Chemistry  
University of Cambridge

Silvia Vignolini is internationally recognised for her original research on biological photonic materials, at the interface of chemistry, physics, biology and materials science. Her research has generated deep insights into the photonic structures that have evolved for manipulating light in natural flora and fauna. For example, she has demonstrated the importance of disordered nanostructures in the petals of flowers for producing visual signals that are recognised by pollinating insects. She has exploited insights gained from studying nature to create artificial self-assembled bio-mimetic materials from biopolymers such as cellulose and chitin. This work on bio-inspired optical materials has potential commercial impact in the manufacture of films of cellulose nano-crystals that are highly scattering and bright white, or coloured, purely as a consequence of their photonic structures.

Economics



## Dr Gabriella Conti

Department of Economics and  
the Department of Social Science  
University College London

Gabriella Conti has been at the forefront of research drawing on both the biomedical and the social sciences to understand the developmental origins of health inequalities and the behavioural and biological pathways through which early life conditions affect well-being throughout the life-course. Her work straddles a traditional divide between disciplines and the quality of her work has been recognised in both biomedical and social science fields. She has published widely in prestigious journals such as *Science*, *PNAS*, the *Economic Journal*, the *Journal of Econometrics* and *The Lancet*. Her Philip Leverhulme Prize will be used to investigate the long-term impact on health of one of the largest programmes in the world targeted at early years interventions, the UK Health Visiting Programme.



## Professor James Fenske

Department of Economics  
University of Warwick

Developing a richer understanding of the roots of economic development in Asia through exploiting new and innovative sources of data lies at the heart of James Fenske's research agenda. His publications combine a rich historical and institutional knowledge with careful and creative empirical analysis. To date, much of his work has been focused on Sub-Saharan Africa, although more recently he has turned his attention to India. His research ranges widely, including land tenure, slavery, ethnic inequality, education, polygamy, infant mortality and adult mental health. All of this research is characterised by the utilisation of some unique data sources, for example merging ethnographic data with spatial data from geographic information systems, or digitisation of records previously unavailable to researchers. He is a leading member of a pioneering group of economic historians causing us to reappraise our understanding of colonial developments and their significance for contemporary societies.



## Dr Xavier Jaravel

Department of Economics  
London School of Economics and Political Science

Although it is widely recognised that productivity increases are crucial for economic growth, relatively little is known about either the social and economic processes that drive innovations or the distribution of the welfare gains that they induce. Through a series of empirical studies published in leading international journals, Xavier Jaravel's work demonstrates the important interactions between inequality and productivity dynamics. In particular, his analysis using scanner data for millions of products finds that the price effects of product innovations have strengthened inequality in the US, while another paper shows that inequality feeds into innovation because (all other things being equal) the chances of becoming an inventor are lower for women, minorities and children from low-income families. His work has also established the importance of teamwork for inventors' careers and shown that consumer price declines due to international trade are spread equally across all income groups.





## Professor Friederike Mengel

Department of Economics  
University of Essex

Friederike Mengel studies microeconomic behaviour through the lens of innovative dynamic models and experiments. Her research made significant progress in our understanding of the emergence of cooperation when agents do not simply meet randomly to interact, the standard assumption in much of the classical literature, but are, for instance, part of a social network or sort themselves endogenously into groups. Her work shows the crucial importance of such micro structures in populations. Similarly innovative are her investigations into learning processes when agents play more than one game at a time and when, due to cognitive limitations, spillovers between games may occur. She has recently won a European Research Council Starting Grant to study the exciting and topical theme of opinion dynamics.



# Professor Benjamin Moll

Department of Economics  
London School of Economics and Political Science

Benjamin Moll's research lies at the forefront of macroeconomics and deals with issues related to economic inequality as well as the implications of the heterogeneous nature that characterises economic agents. His work utilises an impressive array of technical skills in developing heterogeneous agent models which is allied to extensive empirical investigations and has been published widely in the highest quality journals in economics. His future research agenda is equally ambitious and aims to address a number of important questions in macroeconomics that require an integrated approach to studying both macroeconomic aggregates as well as their underlying distributional characteristics. The results of this research agenda have the potential to have a considerable impact on the design of economic policy.



Engineering



## Dr Jessica Boland

School of Electrical and Electronic Engineering  
University of Manchester

Jessica Boland is an internationally recognised expert in ultrafast spectroscopy and the development of terahertz devices, having pioneered the use of terahertz spectroscopy for non-contact, non-destructive electrical characterisation. Her research focuses on combining ultrafast optical-pump terahertz-probe spectroscopy with scanning near-field optical microscopy to provide a unique tool for examining the ultrafast carrier dynamics of III-V nanostructures, 2D materials and topological insulators with femtosecond temporal resolution, nanometre spatial resolution and surface sensitivity. Her novel devices enable impacts in sectors as diverse as healthcare and security. Her work has been recognised by the receipt of a number of prestigious prizes, including the Isambard Kingdom Brunel Award, the Institute of Physics Jocelyn Bell Burnell medal and by an Alexander von Humboldt fellowship.



## Dr Rainer Groh

Faculty of Engineering  
University of Bristol

Rainer Groh's research is providing important new insights into the design of aerospace structures, including work with NASA to reduce the weight of satellite launchers and thus improve their performance. His work includes the development of multi-functional structures that can change their shape to adapt to different operating conditions. Dr Groh also works at the boundaries between disciplines, collaborating with computer scientists to develop shape-changing materials for human-computer interaction. The breadth of his research is also demonstrated through a novel collaboration with biologists to understand how moths exploit aeroelastic effects to emit acoustic clicks to jam predator echolocation.



## Dr Hannah Joyce

Department of Engineering  
University of Cambridge

Hannah Joyce has achieved international recognition for her research into engineering nanomaterials. A particular focus has been in conceiving new functionalities of optoelectronic devices that have exceptional performance characteristics. Examples include the achievement of an ultrafast switchable terahertz polarisation modulator, bulk limits for electron mobilities in nanowires and perfect crystallographic phase tuning in nanowire growth. Her research spans the study of the fundamental aspects of semiconductor nanomaterials through to developing new technologies, such as solar cells. She has published exceptional findings in highly respected journals that bridge the gap between fundamental science and engineering. Her research is funded by EPSRC research grants. A current European Research Council Starting Grant also demonstrates the high recognition of her research at an early career stage.



## Dr Camille Petit

Department of Chemical Engineering  
Imperial College London

Camille Petit is an internationally recognised expert in the field of porous materials. Her Philip Leverhulme Prize will be used to investigate the development of new photocatalytic materials to convert CO<sub>2</sub> into a valuable fuel using the energy from sunlight. The design and manufacturing of a sustainable, efficient, robust photocatalyst is highly challenging; her project will focus on a new photocatalyst family. Reduction of CO<sub>2</sub> is of major importance in mitigating the effects of global warming and climate change. Dr Petit's work will contribute to the United Nations development goal of achieving environmental sustainability, one of the main challenges facing society today and in future decades.



## Dr Alister Smith

School of Architecture, Building and Civil Engineering  
Loughborough University

The future may well be digital, but most of our underpinning infrastructure is still dependent on large-scale physical assets, much of it built many years ago, with no embedded real-time performance monitoring. Recent events in the UK and abroad of actual and incipient dam failures warn us why this is of critical importance, posing major risks to life and the environment. Alister Smith's research has developed a means of landslide early warning by interpreting high-frequency noise, known as acoustic emissions, generated by soil in the subsurface when the ground moves. His goal is to revolutionise infrastructure stewardship with acoustic emissions sensing. If we can listen to geotechnical assets (e.g. buried pipelines, foundations, retaining structures etc.) with intelligent sensors, analogous to a stethoscope used for a patient's heartbeat, then Dr Smith believes we will be able to provide information on infrastructure condition and early warning of deterioration in real-time. His vision is of a family of acoustic emission sensors distributed globally, protecting people and infrastructure.

Geography





## Dr Sarah Batterman

School of Geography  
University of Leeds

Sarah Batterman, a graduate of Princeton University, is Associate Professor in the School of Geography at the University of Leeds. Over the last five years she has been working as a Natural Environment Research Council Independent Research Fellow and has established herself as a leading global figure in symbiotic nitrogen fixation and tropical forests as carbon sinks. In particular, recent work has focused on how trees with the ability to fix atmospheric nitrogen may help store additional CO<sub>2</sub>. Her work is concurrently examining contemporary biogeochemical processes through fertilisation experiments in tropical forests along with the evolutionary history of nitrogen fixers. Her recent journal papers have been published in *Nature*, *Nature Communications*, *Nature Plants*, *Ecology Letters*, *Journal of Ecology* and *Global Biogeochemical Cycles*. Sarah's work will create impact and inform policy makers and practitioners about the potential for carbon offsets in tropical regions and how to build forests that are resilient to and help combat climate change.





## Professor Christina Hicks

Lancaster Environment Centre  
Lancaster University

Christina Hicks has already forged an international reputation for producing insightful and actionable research on how the livelihoods of people living in some of the most economically marginal communities in the world are often heavily reliant on a relatively small number of food sources, where fish is a vital source of micronutrients. By using an impressive array of theories and innovative methods she has shown how geographical, gendered and economic relationships heavily affect who enjoys greater food security and who does not. She plans to use the Philip Leverhulme Prize to undertake fresh research in West Africa which investigates how new waves of trade and investment into the region are radically reshaping peoples' ability to enjoy more sustainable livelihoods.



## Professor Robert Hilton

Department of Geography  
University of Durham

Robert Hilton has opened up a new research frontier that relates to how carbon released by erosion and weathering is affecting and in turn being affected by a warming climate. This topic speaks directly to broader debates on the extent to which climate change may be producing much bigger, cascading effects than is commonly supposed. Uniquely, his work is forging new connections between the Earth's interior (tectonics), surface (topography, erosion) and biogeochemical flows (of carbon). He plans to use the Philip Leverhulme Prize to undertake important new research that studies the fate of carbon locked into the permafrost regions of Canada that are already experiencing much faster rates of warming than the global average.



## Dr Fiona McConnell

School of Geography and the Environment  
University of Oxford

Fiona McConnell is an outstanding scholar and research leader who has made a significant contribution to the development of political geography and international relations. Her innovative work on diplomacy and geopolitics among non-state entities combines theoretical sophistication with empirical rigour and has been influential within the diplomatic community. Over the past decade she has developed an impressive track record of prestigious research funding, prizes and international invitations as well as making an important contribution to the wider discipline through her editorial roles and work with research groups of the Royal Geographical Society. Her proposal to use the Philip Leverhulme Prize to research the right to diplomacy promises to produce impactful work that will benefit excluded communities.



## Dr Philippa Williams

School of Geography  
Queen Mary, University of London

Philippa Williams is a Senior Lecturer in Human Geography in the School of Geography at Queen Mary, University of London. Her research concerns everyday experiences of the state in South Asia and, as her monograph on *Everyday Peace* demonstrates, how questions of citizenship are articulated through processes of violent and nonviolent marginalisation. In her current work on the 'Digital India' programme she has become increasingly interested in how digital technology is mediating everyday political life. The Philip Leverhulme Prize will enable her to develop this exploration of the impact of digital transformations, especially how these relate to digital healthcare and social media like *WhatsApp*.

# Languages and Literatures



## Professor Marc Alexander

Department of English Language and Linguistics  
University of Glasgow

Marc Alexander has been awarded a Philip Leverhulme Prize for his outstanding work on historical semantics and the evolution of meanings in English. His long-term work as the third Director and Chief Editor of the *Historical Thesaurus of English* has been impressive in terms of the product itself: it is the world's largest thesaurus and the only historical thesaurus for any language, documenting the histories and shifts of meaning over a thousand years. Much of Professor Alexander's subsequent research builds on the Thesaurus dataset, focusing on meaning in texts and engaging with interdisciplinary work with historians and computer scientists. His expertise in historical semantics allows him to investigate change in the English language from small and large-scale perspectives and capitalise on the complex and comprehensive data captured in the *Thesaurus*.





## Dr Emma Bond

School of Modern Languages  
University of St Andrews

Emma Bond's two monographs and four edited volumes have established her as a major figure in both Italian Studies and Comparative Literature. *Disrupted Narratives: Illness, Silence and Identity in Svevo, Pressburger and Morandini* (2012) and *Writing Migration through the Body* (2018) offer unique insight into Italian literature in a transnational framework. Her work exploring the circulation of people, texts and objects has most recently taken her into the fields of the creative humanities and museum studies. The quality and range of her interdisciplinary research has been recognised by a series of awards and visiting fellowships in the UK, Europe and the US. She is currently collaborating with a number of museums and other non-academic partners on projects which investigate transnational memories of colonialism and empire and their imprint on exhibition practice. Her work extends the methodological parameters of modern languages and redefines its contribution to contemporary research in the humanities.





## Dr Merve Emre

Department of English Language and Literature  
University of Oxford

For a scholar who successfully defended her PhD as recently as 2015, Merve Emre has been extraordinarily productive, with books published or forthcoming on a range of topics, alongside countless essays and reviews. Each of her works has made a significant contribution to its field. *Paraliterary* raises crucial, but often overlooked, questions about the differences in reading practice inside and outside the academy. *The Personality Brokers* maps the pervasive global influence of the Myers Briggs Type Indicator on education and business, was selected as a Best Book of 2018 by *The New York Times Book Critics*, *NPR*, *The Economist*, *The Spectator*, *CBC* and is currently being turned into a HBO documentary. *The Ferrante Letters* is an experimentally collaborative work that contributes to ‘collective criticism’. Future plans include a major monograph on ‘estrangement’ and ‘alienation’ in the novel from Henry James to the present.



## Professor Martin Eve

Department of English and Humanities  
Birkbeck, University of London

Martin Eve has been awarded a Philip Leverhulme Prize for his work in digital humanities, computational methodologies and publishing practice. His interdisciplinary research addresses the digital and the literary and he has published significant work on contemporary American fiction (focusing on Thomas Pynchon, Don DeLillo and David Foster Wallace), alongside monographs on open access and the humanities, the contested relations between contemporary fiction and criticism and close reading with computers. He has been active in the formation of open access policy in higher education and has established a number of platforms and tools in relation to digital humanities and computational resources. In the next phase of his research, Professor Eve will consider the political economies of literary art when the source is both digital and illicit.



## Dr Joe Moshenska

Faculty of English  
University of Oxford

Joe Moshenska is the author of *Feeling Pleasures* (2014), a study of touch in Renaissance literature: it also looks at topics including the touching of relics, the handling of paintings and philosophical accounts of tickling. He followed it with a book based on archival research but addressed to a wide audience, *A Stain in the Blood: The Remarkable Voyage of Sir Kenelm Digby* (2016), reconstructing the journey that this wide-ranging Catholic author made through the Mediterranean in 1628. His most recent book, *Iconoclasm as Child's Play* (2019), considers the anthropological and religious implications of the fact that, during the Reformation, images of saints and the like, once desecrated, were sometimes given to children as toys. He is now editing the letters of Kenelm Digby and working on an ambitious study of the concept and practice of play in the Renaissance.



# About the Trust

The Leverhulme Trust was established by the Will of William Hesketh Lever, the founder of Lever Brothers. Since 1925 we have provided grants and scholarships for research and education; today, we are one of the largest all-subject providers of research funding in the UK, distributing approximately £100m a year.

We award funding across academic disciplines, supporting talented individuals in the arts, humanities, sciences and social sciences. As well as substantial grants for research, we offer fellowships for researchers at every stage of their career, grants for international collaboration and travel and support for the fine and performing arts.

