

PHILIP LEVERHULME PRIZES 2013

Each year, the Trust awards up to 30 Philip Leverhulme Prizes to recognise researchers at an early stage of their career, whose work has already had a significant international impact, and whose future research career is exceptionally promising. Prize winners receive an award of £70,000 which may be used for any research purpose.

ASTRONOMY AND ASTROPHYSICS

Dr Richard Alexander

*Department of Physics and Astronomy,
University of Leicester*

Richard Alexander is one of the leading star-formation theorists of his generation, and has written important papers on photo evaporation, protoplanetary disc evolution and dispersal, and on accretion discs. His skills include pertinent numerical simulations as well as semi-analytical calculations. He is an original thinker and his work is making a significant international impact in a number of fields.

Dr Stefan Kraus

School of Physics, University of Exeter

Stefan Kraus has produced pioneering work in the field of aperture synthesis at infra-red wavelengths. He has exploited these challenging techniques in various fields including planet formation and young stellar objects; for example, in a recent first-author *Nature* paper he and his team presented the first unambiguous detection of a circumstellar disc around a forming high-mass star. He has written extremely high quality papers that show he is truly a leader in stellar interferometry.

Dr Mathew Owens,

*Department of Meteorology,
University of Reading*

Matthew Owens is an associate professor at Reading who has developed a world-leading reputation in solar system physics, notably on the evolution of the heliospheric magnetic field. This continuation of the Sun's magnetic field into interplanetary space is a key to understanding how the Sun influenced climate in the distant past and how space weather continues to affect the Earth and space satellites today. Dr Owens uses a combination of computational modelling and spacecraft observations to determine the evolution of the Sun's magnetic field. He interprets ice-core observations going back 10,000 years and makes current space weather forecasts. His national and international

standing is evidenced by the award of the Royal Astronomical Society Fowler Award, his appointment as associate editor of one of the main journals in the field, and his recent keynote speech at one of the main international conferences in solar system physics.

Dr Mark Swinbank

*Department of Physics and Astronomy,
Durham University*

Mark Swinbank has pioneered studies of star formation and dynamics within distant galaxies. He has exploited use of 3D spectro-imaging to study the motions of stars and gas in young galaxies and to relate these to theoretical models of galaxy formation achieving this using integral field unit (IFU) spectrographs with adaptive optics on, for example, the European Southern Observatory Very Large Telescopes. He has also taken advantage of the magnifying of distant galaxies by intervening galaxies along the line-of-sight called gravitational lenses. He is playing a leading role in defining major observational programmes for much current and next-generation instrumentation. He has written a series of outstanding and highly original papers that have had important influence on the field of observational cosmology and galaxy evolution.

Dr John Taylor (Southworth)

*School of Physical and Geographical Sciences,
Keele University*

John Taylor is an observational astrophysicist focussing on the area of extrasolar planets who combines an expertise in instrumental techniques with a deep physical insight. Writing under the name John Southworth, Dr Taylor is a prolific publisher of highly-cited work with over one hundred articles published to date. His achievements include a now widely-used methodology for extracting the surface gravity of transiting exoplanets, and exploitation of the 'de-focussed photometry' technique to obtain high-quality datasets on such systems. He has enhanced the value of his work by making his computer code and results available to the entire research community.

ECONOMICS

Dr Jane Cooley Fruehwirth

Faculty of Economics, University of Cambridge

Jane Fruehwirth has an outstanding portfolio of research in the broad area of applied microeconomics and has established herself as a promising young leader in the economics of

education. She has made significant advances toward the better understanding of peer effects in education (how pupils benefit from the presence of others), one of the most difficult problems in the economics of education. Pursuing an innovative equilibrium approach she developed a new method to identify peer effects. She has also made important contributions towards measuring the effects of postgraduate education and the consequences of grade retention. Overlapping with her research on education is her work on racial inequality and her findings on the role of race for peer effects have important implications for desegregation policies. Dr Fruehwirth's work displays formidable skill and a great eye for socially important problems.

ENGINEERING

Dr Haider Butt

*Department of Electrical Engineering,
University of Cambridge*

Haider Butt conducts pioneering research concerning the use of nano-materials to develop novel optical devices. In particular, he has been able to produce optical holograms from arrays of so-called carbon nanotubes (CNTs), tiny tubes consisting of rolled up graphene sheets. The small pixel size achievable with CNTs and their unique optical properties may pave the way for future applications ranging from high volume data storage to the motion projection of three-dimensional, life-like images.

Professor Bharathram Ganapathisubramani

*Faculty of Engineering and the Environment,
University of Southampton*

Bharathram Ganapathisubramani is distinguished for his research in the area of experimental fluid mechanics through novel work on the exploration of the physics of fluids, coupled to the development of advanced diagnostic methods. His work includes measurements of velocity fields using non-invasive laser diagnostics, delivering insights into the mechanisms responsible for generating drag in turbulent flows. The problem of turbulence remains one of the most challenging in classical physics and represents a key field to unlock new innovations in aerospace engineering and other sectors. Professor Ganapathisubramani's methods have been adopted by many international research groups and his research is supported by industry and a range of highly competitive grants.

Dr Eileen Gentleman

Department of Craniofacial Development and Stem Cell Biology, King's College London
Eileen Gentleman is a rising star in the fields of tissue engineering and regenerative medicine. An experimental scientist, her research is highly interdisciplinary, combining materials science and engineering with fundamentals of developmental and mechanobiology.

Of particular note, Dr Gentleman has experimentally demonstrated important differences in the quality of the bone formed from stem cells when isolated from different sources. Furthermore, she has shown that these differences might impact on how well engineered bone would function if used therapeutically in patients. Although controversial just a few years ago, her conclusions on bone formed from embryonic stem cells are now widely accepted and her methods are regularly used by others. She has also contributed to high impact publications in *Proceedings of the National Academy of Sciences* and *Nature Materials* on fundamental aspects of biomineralisation in bone and the cardiovascular system.

In addition to Dr Gentleman's publication record, which is outstanding for an early career researcher, she continues to draw recognition from her peers. She has been invited to speak at universities around the UK and has given numerous research presentations at international conferences, most notably in the USA at the annual meeting of the Orthopaedic Research Society.

Dr Aline Miller

Department of Chemical Engineering and Analytical Science, University of Manchester
Aline Miller is one of the leading interdisciplinary researchers of her generation. She was awarded her PhD in 2000 in polymer chemistry from Durham University where she won several awards. With this as a springboard, she was awarded a College Junior Research Fellowship to work with Professor Dame Athene Donald in the Cavendish Laboratory, University of Cambridge. After holding this Fellowship for only a year, based on her track record and potential she was appointed a lecturer in chemical engineering at the University of Manchester. Her work spans a wide area within the remit of biomolecular engineering, with particular emphasis on controlling molecular- and micro-structure of materials over a range of length scales to produce a defined function. In 2008 she was awarded the MacroGroup UK Young Researchers Medal and the Polymer Physics Group Young Researchers Lecture Award. This novel work resulted in a new class of hydrogel for use as cell scaffolds, and was taken up by Smith and Nephew for

initial trials. Her group is also developing a platform technology based on self-assembling peptides (this includes four patents) and expanding into two areas: the development of smart materials for targeted drug delivery and for biocatalytic chemical transformations.

Dr Ferdinando Rodriguez y Baena

Department of Mechanical Engineering, Imperial College London

Ferdinando Rodriguez y Baena has gained an international reputation for innovative research into medical robotics. This has already led to clinical trials for knee arthroplasty, which represents a breakthrough in the field. Other aspects of his research cover automatic drug delivery with in-situ diagnostics, control of surgical instruments when interfacing with soft and hard tissue, and the correct functionality of steerable miniaturized medical delivery systems through path planning and control. The future applications of his findings will have a notable influence on medical treatments in the future. His research demonstrates the great benefits that can be achieved when engineering principles are directed towards an interdisciplinary field.

GEOGRAPHY**Dr Ben Anderson**

Department of Geography, Durham University

Ben Anderson has established world-leading expertise in cultural and political geography, particularly in terms of his contributions to scholarship across the social sciences and humanities on the spatial politics of affect and emotion. His work is characterised by intellectual leadership in the application of these theoretical concerns to the study of contemporary geographies of power and emergency. He has published widely on these topics in the leading geographical and interdisciplinary journals and will reach a wider audience still with his imminent monograph. The Philip Leverhulme Prize will enable him to further develop his research agenda on how events classified as emergencies are governed.

Dr Dabo Guan

School of Earth and Environment, University of Leeds

Dabo Guan is currently an associate professor in the Sustainability Research Institute at the University of Leeds, and a senior member of St Edmund's College, University of Cambridge. He has a growing international reputation for research in environmental resources accounting, climate change mitigation in developing countries, and climate change adaptation economics. These research activities have led

to nearly fifty publications (including in the journals *Nature Climate Change* and *Global Environmental Change*) and the role of lead author for the Intergovernmental Panel for Climate Change AR5 Working Group II.

The award of a Philip Leverhulme Prize will be used to develop a new concept of 'disaster footprint' analysis in the field of climate change adaptation. This will provide an accounting framework for measuring the direct and indirect socioeconomic impact of a disaster event across both the disaster region and wider economic systems and social networks.

Dr Anna Lora-Wainwright

School of Geography, University of Oxford

Dr Anna Lora-Wainwright is a Lecturer in the Human Geography of China at the University of Oxford. Her daring and truly innovative research on the human and environmental cost of development in China has established her as a researcher of international standing and has demonstrated the value of in-depth human geographical study in an increasingly interdisciplinary research environment.

Based on 20 months of ethnographic research in rural China, her first book, *Fighting for Breath* (2013), explores how Chinese villagers understand and respond to illness and development, using rich descriptions of everyday life to convey the deep social suffering and injustice which characterise much of the villagers' experience. Her subsequent research and publications on living with pollution in China identify how ideas of a 'good life' vary according to cultural, political and economic contexts, and trace previously unrecognised patterns in citizen activism and its limits.

Dr Lora-Wainwright's work is inspiring because of her linguistic and cross-cultural skills which have enabled her to collect original data in sensitive field work contexts. She is one of the first Western geographers to work across disciplines in China and with both local governments and citizens to tackle the challenges of pollution. Her research on the interplay between science and politics documents the development of lay-expert collaborations in rural China and has been translated into different languages. As such, Dr Lora-Wainwright is unique in making important theoretical, empirical and policy impacts in different national contexts.

Dr Erin McClymont

Department of Geography, Durham University

Erin McClymont, an internationally renowned paleoclimatologist, employs biomarkers to reconstruct past environmental conditions and associated climate changes through examination of the evidence preserved within sediment records.

More specifically, she applies novel organic chemistry techniques to marine sediments to identify high temporal resolution changes in temperature over the last four million years. Significant research grants have been awarded to fund this work, most recently from the Natural Environment Research Council, Research Council of Norway and the Academy of Finland. Dr McClymont's achievements lie in her skills as an organic geochemist to develop geochemical proxies to reconstruct past ocean temperatures, and in her contributions to our understanding of the mid-Pleistocene transition, which has important implications for our consideration of the sensitivity of climate change to natural mechanisms. A key contribution has involved the creation of a new data set of sea surface temperatures for around one million years ago, which demonstrates that oceans begin to cool ahead of ice-sheet expansion, meaning that ice-sheets are not driving the reconstructed climate change as some believed. She has established a strong body of published work in leading academic journals, while other measures of esteem include numerous international invitations to present at major conferences and meetings and a growing list of national and international research collaborations. Alongside all these research activities Dr McClymont is also engaged in outreach activities to promote public understanding and engagement such as the Climate Change Schools Project.

Dr Colin McFarlane
Department of Geography,
Durham University

Colin McFarlane has established himself as a leading international figure in comparative and informal urbanism in the global South. He has pioneered studies which consider urban life through the lens of everyday experience as a basis for understanding contemporary urbanisation. He has also brought his intellect to bear upon the pressing issue of what it means to conduct comparative urban research in today's interconnected world, in a way that cuts across established divisions between global North and South. As such, his growing international reputation has put him at the forefront of both substantive urban and methodological debates. He plans to extend this reputation by opening up a new research frontier around the urbanisation of human waste, one which ties together his work on informality, experience, and urban settlements.

Dr David Nally
Department of Geography,
University of Cambridge

David Nally is an outstanding and imaginative scholar who has made a

marked contribution to contemporary understandings of global food security challenges through drawing on his work on the Great Irish Famine. *Human Encumbrances* is the first major work to apply the critical perspectives of famine theory and postcolonial studies to the causes and history of the famine, and combines an impressive range of archival sources, including contemporary critiques of British famine policy, to argue that the famine was an expression of political violence and specifically a form of colonial biopolitics intended to redraw the political landscape of Ireland. His future work will explore the ways in which the 'problem of hunger' is constructed through the lens of 'food security' and the implications for efforts to address global hunger.

Dr Lindsay Stringer
School of Earth and Environment,
University of Leeds

Since completing her PhD in 2005, Lindsay Stringer has further developed her academic expertise in the area of policy related to the management of drylands. She has augmented our understanding of the relationships between desertification and climate change, playing an important role in the work of the United Nations Convention to Combat Desertification. Lindsay's work seeks to bridge the gap between the science and policy-making communities in this critical area of research and practice, particularly in southern Africa. She directs the Sustainability Research Institute at Leeds University and is well-placed to strengthen her research networks and activities over the years ahead.

MODERN LANGUAGES AND LITERATURE

Dr Kathryn Banks
Department of Modern Languages,
Durham University

Kathryn Banks has been awarded a Philip Leverhulme Prize for her research on the specificity of literary thinking relative to other forms of thought in the early modern period. This long-term project, which investigates how literature functioned as a tool for thought rather than simply a vehicle, is unfolding across three interrelated monographs. The first, *Cosmos and Image in the Renaissance* (2008), shows how poetry's deployment of images contributed to fundamental Reformation questions about the relationship between God, 'man' and the world. The second, funded by a Leverhulme Trust Research Fellowship and to be published in 2014, uses literature to provide insights into apocalyptic thinking by juxtaposing Reformation apocalypticism with conceptions of literature as prophecy.

The third, initiated during a research lectureship funded by Terence Cave's international Balzan project, will explore the relation between literary thinking and cognitive neuroscience, taking the writings of François Rabelais as a test case for the way literature employs figurative movement to exploit brain responses resembling those produced by actual movement.

Dr Andrew Counter
Department of French, King's College London
Andrew Counter has been awarded a Philip Leverhulme Prize for his interdisciplinary research on nineteenth-century French culture, which explores the relation of literature to its legal and political contexts. His monograph *Inheritance in Nineteenth-Century French Culture: Wealth, Knowledge and the Family* (2010) is the first critical overview of the omnipresent theme of inheritance in nineteenth-century French literature. Drawing on both canonical and little-known texts from across the century, he establishes a dialogue between literary plots and socio-historical issues deriving from post-Revolutionary changes to marriage and property law. His next book will address the interface of politics with love, sex and desire during the Bourbon Restoration of 1815–1830. It will draw on a wide range of primary sources to provide a multi-layered account of thinking about sexuality during a distinctive and relatively short-lived historical regime. Two of Counter's published essays have won prestigious prizes: the 2011 Malcolm Bowie Prize for 'One of Them: Homosexuality and Anarchism in Wilde and Zola', and the 2013 Forum for Modern Languages Prize for 'Astolphe de Custine and the querelle d'Olivier: Gossip in Restoration High Society'.

Professor Sally Faulkner
Department of Modern Languages,
University of Exeter
Sally Faulkner has written extensively, with originality and authority, on Spanish film, and has identified new and important grounds in modern Spanish culture, such as the 'middlebrow'. Her contribution to the fields of Hispanic studies and film studies is an impressive one for a researcher at this stage in her career. Her track record of publications is exceptionally strong, with three single-authored monographs, an edited collection, and further work in preparation. Her monographs carve out a distinctive approach to screen studies and Spanish culture that has been widely recognised nationally and internationally. A successful history of grant capture to support her work is testimony to the high regard in which she is held. Her work in the leadership and direction of research as Director of Research for Modern Languages, and as the founder

and director of the Centre for Translating Cultures in the University of Exeter, demonstrate her to be one who is active in the promotion and stimulation of original research in others. The international regard for Dr Faulkner's work is attested to by her delivery of key-note speeches in the UK and internationally, her invited contributions to edited volumes and involvement with research centres and projects at UK, US and Spanish institutions.

Dr Lara Feigel

Department of English, King's College London
In her copious work on the literature of the 1930s and 1940s, Lara Feigel has succeeded in reaching a wide audience while maintaining the highest academic standards. Her first book, based on her PhD thesis, *Literature, Cinema and Politics 1930–1945* (2010), investigated the complex relationship between politically-engaged literature and cinema in this period. She followed it with a highly innovative and widely reviewed book, *The Love-Charm of Bombs: Restless Lives in the Second World War*, a collective biography of Elizabeth Bowen, Henry Green, Graham Greene, Rose Macaulay and Hilde Spiel in and after the War, which draws extensively on archives and presents a vivid and detailed picture and analysis of these writers' fiction within their biographical and historical contexts. She has a strong record of public engagement, besides supervising numerous doctoral students. Her future project will draw on her familiarity with German to study the work of British and American writers and film-makers in Germany in the immediate postwar period.

Dr David James

School of English and Drama, Queen Mary, University of London
David James is the author of two monographs and two edited volumes on twentieth- and twenty-first-century British literature. His first monograph, *Contemporary British Fiction and the Artistry of Space* (2008), explores how fictional landscapes become a site of literary experimentation. His second monograph, *Modernist Futures* (2012), advances a revisionist account of the way we think of postmodernist literature, focusing on the local insertion of literature and its moral and political engagement, rather than foregrounding self-referentiality and literary play. In so doing, he also helps us rethink the afterlife of modernist literature. His work has been called 'field-defining' as he changes a 'reigning paradigm'.

Despite his prolific writing, referees praise him for his refined sense of form and style as well as his collegiality, expressed through his untiring efforts to advance the discipline, notably in establishing a book series on contemporary literature with Columbia

University Press. His current project is entitled 'consolation and the novel in an age of terror'.

Dr James Smith

Department of English Studies, Durham University
James Smith, Lecturer in English at Durham University, has produced ground-breaking work on modernist literature and the British intelligence services. The recent opening of previously closed security files enabled him to undertake extraordinarily interesting research published by Cambridge University Press as *British Writers and MI5 Surveillance 1930–1960* (2013). Smith's discoveries have wide-ranging implications for our knowledge of the relationship between literature, culture and politics in the twentieth century. He has also completed a range of complementary studies: on the interest taken by the intelligence services in Soviet films in the 1930s, on the relations between several key modernist authors and fascism, and on what happened when the Berliner Ensemble theatre company first visited London. He has opened up a whole new field and he will devote his Philip Leverhulme Prize to a study of the most rewarding subject of the role of the British Council in international cultural and literary affairs during the Cold War.

Dr Hannah Sullivan

Faculty of English, University of Oxford
Hannah Sullivan is the author of *The Work of Revision* (2013), a groundbreaking account of the effects of technology on the compositional practices of twentieth-century authors. Through archival study and close textual analysis, Sullivan demonstrates the effects of the typewriter and personal computer not only on the processes of literary production but, more importantly, on literary style itself. Developing the methods employed in her first monograph, and benefiting from previous collaborations with Google Books, Sullivan will use computational analysis in her next project to uncover prosodic constraints within free verse.

PERFORMING AND VISUAL ARTS

Mr Martin Callanan

Slade School of Fine Art, University College London
Martin Callanan's practice has already reached significant national and international exposure, through projects that manifest themselves physically, as well as online. His practice investigates image and object through a technological vernacular, but this is tempered by an overarching notion of the individual within a hyper-connected series of systems and structures. Callanan's practice reflects a pertinent moment in the ongoing negotiation of contemporary art's relationship with technology, with a clear emphasis

on the relevance of studio practice and its myriad potential through different modes of production. Callanan's practice includes photography, video, and a broad spectrum of other electronic media. The commitment and energy that Callanan brings to his practice is demonstrated by his inclusion in over eighty-six exhibitions in 25 countries since his graduation in 2005. Recent projects include solo presentations at Noshowspace (London), Or Gallery (Berlin), and Horrach Moya Gallery (Spain).

Dr Nadia Davids

School of English and Drama, Queen Mary, University of London
Even if one were to ignore the content of her works, Nadia Davids would be a rare figure in dramatic studies: a successful and widely performed playwright and theatre-maker who also operates as a sophisticated cultural scholar. That her productions, both scholarly and dramatic, tackle such under-documented subjects as the experience of Muslim and 'Coloured' women in South Africa makes her almost unique. The peculiar and important nexus she inhabits was demonstrated by her referees for the Philip Leverhulme Prize being drawn not only from the academic field but from amongst South Africa's leading theatre-makers. Her proposed topic of research, archiving the Prestwich Place slave-burial ground in Cape Town through both scholarly and performative modes, epitomises the innovative nature of her work.

Dr James Moran

School of English, University of Nottingham
James Moran is an associate professor at the University of Nottingham and an outstanding specialist in twentieth-century Irish and English drama. His research is particularly concerned with analysing the local particularities involved in the production and reception of modernist literature and drama, which are central concerns in his monographs *The Theatre of Sean O'Casey, Irish Birmingham* and *Staging the Easter Rising*. Dr Moran is also active as a broadcaster and since 2010 has presented a monthly book review for BBC Radio Nottingham, where he has focused on local writers.

He is currently writing a book about the theatrical thinking of DH Lawrence, and his future work concentrates on the overlooked dramatic writings of a broader group of anglophone high-modernists, including Yeats, Joyce, Woolf, Pound, and Wyndham Lewis. These figures are often best remembered for writing novels or poems, but Moran explores the place of their plays within the modernist canon, and analyses their negotiations between local and international affiliations.

Dr Tim Smith

*Department of Psychological Sciences,
Birkbeck, University of London*

Tim Smith's practice has a clearly defined interest in cognitive psychology and technology. His investigations into visual media have been of significant academic impact, with particular reference to his work in moving image and contributions to the growing field of cognitive film studies. Although Smith's work has an interdisciplinary aspect which is highly invested within the scientific study of cognitive development, autism, and psychology, his practice manifests itself in projects which have a clear relevance to the visual arts. Recent indications of this are exemplified by his work with Tate Britain and the perceptual consequence of the restoration of John Martin's *Destruction of Pompeii & Herculaneum* (1821). Another project has seen Smith working with highly sophisticated computer-aided animation in conjunction with Dreamworks in the USA. His most recently published work 'Watching You Watch Movies' is included in *Psychocinematics: Exploring Cognition at the Movies* (2013), published by Oxford University Press.