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# The Leverhulme Trust

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1 Pemberton Row London EC4A 3BG

## Philip Leverhulme Prize Winners 2009

The Leverhulme Trustees are pleased to announce the results of the 2009 competition for Philip Leverhulme Prizes. These Prizes, with a value of £70,000 each, are awarded to outstanding young scholars who have made a substantial and recognised contribution to their particular field of study, are recognised at an international level, and whose future contributions are held to be of correspondingly high promise.

The Prizes commemorate the contribution to the work of the Trust made by Philip Leverhulme, the Third Viscount Leverhulme and grandson of the Founder.

The broad fields of research covered by this year's awards were:

- **Astronomy and Astrophysics**
- **Engineering**
- **Geography**
- **Modern European Languages and Literature**
- **Performing and Visual Arts**

### Astronomy and Astrophysics

#### **Dr Christopher Conselice**

*Department of Physics and Astronomy, University of Nottingham*

Dr Conselice has gained an international reputation for his work on the formation and evolution of galaxies, analysing the information recorded by telescopes to elucidate important episodes in their evolution, dating stellar populations, and identifying the processes which have formed galaxies into the multitude of types seen today. His major contributions have been in two key areas of extragalactic astronomy: galaxy structure and its evolution with cosmic time, and the history of the galactic merge rate. Dr Conselice has played a critical role in developing an empirical observational methodology for studying galaxy evolution, which has become a standard. His most recent work focuses on how the galaxy formation process drives the formation of black holes, star formation, and how stars and dark matter assemble together.

#### **Dr Ineke de Moortel**

*School of Mathematics and Statistics, University of St Andrews*

Dr de Moortel is a top-rank solar physicist working on the behaviour of the Sun's outer atmosphere, known as the corona. Magnetic fields thread the corona and are responsible for its complex structure and also for the puzzling way in which it is heated to enormous temperatures – several million degrees by comparison with the temperature of the solar surface of only 6,000 degrees centigrade. Dr de Moortel has pioneered a new field known as “coronal seismology”. Waves in the corona have recently been detected by new space satellites, and the details of these waves are being used to diagnose the physical properties of the corona, such as its magnetic field strength and density, which are difficult to measure by other means. Dr de Moortel is now planning a major project on modelling loop oscillations in realistic, 3D coronal environments.

<http://www-solar.mcs.st-and.ac.uk/~ineke/>

**Dr Jim Hinton**

*Department of Physics and Astronomy, University of Leeds*

Dr Hinton combines talent in experimental work with excellence in data analysis and interpretation. He studies the highest energy emissions (X- and gamma rays) from extreme environments such as energetic binary star systems, nebulae around pulsars, and the nuclei of active galaxies. He has used the HESS gamma ray telescope in Namibia and the recently launched Fermi satellite, as well as X-ray telescopes on European, US and Japanese satellites. He currently holds a prestigious STFC Advanced Fellowship, and in 2005 won an international prize for significant contributions to cosmic ray physics by a young scientist of outstanding ability. He is an authority on TeV astronomy (the highest frequency at which we can currently do astronomy) and is leading the UK's contribution to the design of the next generation telescope for this part of the spectrum.

<http://www.ast.leeds.ac.uk/~jah>

**Dr Kazuya Koyama**

*Institute of Cosmology and Gravitation, University of Portsmouth*

Dr Koyama is a young cosmologist of rapidly-growing international reputation carrying out pioneering work into the fundamental physics of the Universe. He is a prolific author, having written over 70 publications, usually single-author or with a small number of co-authors. As a graduate student in Kyoto, he demonstrated how to analyze the development of cosmological density perturbations in the emerging 'braneworld' scenarios for the very early Universe. He is recognised as a leader in this area, and in particular of the effort to connect sometimes abstract ideas to astrophysical observables. His current scientific interests include the nature of dark energy in the Universe, and especially its possible interpretation as a modification to Einstein's theory of gravity.

**Dr Ross McLure**

*School of Physics and Astronomy, University of Edinburgh*

Dr McLure works on galaxy structure and formation, and he is one of the leading young observational astronomers in the UK with a highly impressive record of achievement. Astronomers now believe the centre of every medium-to-large sized galaxy contains a black hole whose mass is many times that of the Sun. It appears that the galaxy and the hole 'know' about each other, despite their huge disparity in mass (typically a factor of a thousand) and size (a billion). Dr McLure has led work establishing that the galaxy and the black hole grow their masses in step over time, thus maintaining the mass ratio near the value of a thousand. His findings show that the most massive galaxies and black holes (several billion times the mass of the Sun) actually grew early on in the history of the Universe, before most of the small and medium size systems. He has also shown that the black hole influences the behaviour of the entire galaxy, by shutting off the birth of new stars.

**Dr Hiranya Peiris**

*Department of Physics and Astronomy, University College London*

Dr Peiris is recognised as one of the world's leading young cosmologists, having played a major part in the groundbreaking Wilkinson Microwave Anisotropy Probe (WMAP) satellite project while still a PhD student at Princeton. Her work on constraining inflationary models using WMAP data moved this discipline into a new era of precision. Subsequently she has developed a broad range of interests within her discipline, carrying out important work on a range of topics including the fundamental physics of inflation, the nature of dark energy, and Galactic archaeology. Future research will use the upcoming Planck and Dark Energy Survey data. Her work has demonstrated a very high level of impact, with her papers accruing over fourteen thousand citations to date, and she is in great demand as a conference speaker.

<http://zuserver2.star.ucl.ac.uk/~hiranya/>

**Dr Claire Adjiman**

*Department of Chemical Engineering, Imperial College London*

Dr Adjiman has developed research that is extremely relevant to both industry and academia and is being effectively used in design. She is recognised internationally as one of the young leaders in the process systems engineering field. The development of systematic methodologies for the computer-aided design of materials, products and devices, integrating decisions at the molecular scale with decisions at the bulk scale are just part of her research repertoire. These methodologies permit the selection of optimal processing materials such as solvents, the design of high-performance products such as polymers or crystals, and the design of devices such as solid-oxide fuel cells or electrolyzers. Her development and use of dynamic optimisation techniques and generation of algorithms for the prediction of relationships between structure and properties are now being used to design more efficient and cost effective processes.

<http://www3.imperial.ac.uk/people/c.adjiman>

**Dr Eleanor Stride**

*Department of Mechanical Engineering, University College London*

Dr Stride is one of the most promising scientists working in the area of biomedical ultrasound with a specific research interest in microbubbles and their therapeutic application for targeted delivery. In a relatively short period she has built up a large research group and published extensively in both engineering and medical journals. Her contributions include the development of new theoretical models characterizing single and populations of microbubbles, as well as new methods for preparation of uniform microbubbles. In pursuing her goal to apply her research to practical clinical problems Dr Stride has filed two patents on a new microbubble agent and the preparation technology and is pursuing commercialisation of this work. She is an exceptional scholar who will continue to make key, unique contributions to biomedical engineering at the international level for years to come.

**Professor Mercedes Maroto-Valer**

*Department of Chemical and Environmental Engineering, University of Nottingham*

Professor Maroto-Valer has focussed on some of the most critical problems in energy science, working at the interface between energy and the environment, developing novel solutions to meet the demand for cost-effective and environmentally-friendly energy. She has secured international recognition for her research in carbon capture and storage (CCS), which has been pivotal for the development of new CCS technologies. Her work is characterised by the innovative use of a range of physical and chemical approaches applied to complex materials, spanning oil field brines, coals as carbon-capture agents and waste materials. Some of Professor Maroto-Valer's more recent research has been in the field of mercury capture from power plant flues gases, and her future plans will concentrate on converting CO<sub>2</sub> into a sustainable energy carrier.

[http://www.nottingham.ac.uk/chemenv/staff/staff-a-z.php?id=ODA1MDA0&page\\_var=personal](http://www.nottingham.ac.uk/chemenv/staff/staff-a-z.php?id=ODA1MDA0&page_var=personal)

### **Dr Caroline Bressey**

*Department of Geography, University College London*

Dr Bressey has conducted cutting edge research on the historical and cultural geographies of the black presence in the UK. She has been extremely influential in revealing the 'hidden geographies' of black people and especially black women, effectively re-writing history. Her research has also extended beyond the academy through a range of collaborations with museums as well as the founding and directorship of the Equiano Centre at University College London focusing on the presence of black history in British heritage. Her proposed database of the black presence in Britain between 1300 and 1920 promises to be a pioneering piece of research with relevance across the social sciences.

<http://www.geog.ucl.ac.uk/about-the-department/people/academics/caroline-bressey>

### **Dr Matt King**

*School of Civil Engineering and Geosciences, Newcastle University*

Dr King has established himself as the UK and international specialist in the processing of GPS data in glaciological applications. He has applied his expertise in geodesy to the investigation of physical processes in polar regions. His skills in applying geodetic techniques, particularly to the determination of high-resolution time series from Global Positioning System data, have greatly advanced the reliability of measurements of ice dynamics across timescales from seconds to years. These advances have provided fascinating and ground-breaking insights into the response of polar ice sheets to hydrological and tidal forcings, including the identification of critical ice-bed interactions such as the tidally controlled, stick-slip motion of one of Antarctica's major ice streams.

<http://www.staff.ncl.ac.uk/m.a.king/>

### **Dr David Lambert**

*Department of Geography, Royal Holloway, University of London*

Dr Lambert is an historical geographer best known for his interdisciplinary research on European Imperialism and its legacies. Securing a Readership at the age of 30, he is a genuinely rising star who is already shaping research in his field through a series of excellent publications. His monograph *White Creole Culture, Politics and Identity during the Age of Abolition* (CUP, 2005) offered new perspectives on the intersections between whiteness, colonialism and place and was enthusiastically reviewed. His current project on the relationship between Caribbean Slavery, the exploration of Africa and map-making in the 18<sup>th</sup> and 19<sup>th</sup> centuries is innovative and important, culminating in a monograph to be published by Chicago University Press.

<http://www.gg.rhul.ac.uk/Lambert/>

### **Dr Stephen Legg**

*School of Geography, University of Nottingham*

Dr Legg is an accomplished scholar whose explorations of governmentality in relation to various aspects of the spatial politics of south Asia transcend disciplinary sub-divisions. His book *Spaces of Colonialism* is a landmark study of colonial governmentality and a model of how to combine original theoretical and empirical work to best effect. His work amplifies the inherent spatiality of Foucault's project, raising the impact of geographical thinking in transdisciplinary communities of post-colonial and subaltern studies. His research reputation and audience are unusually well developed for such a young scholar and signal that he is a geographer of outstanding potential as well as demonstrable achievement.

<http://www.nottingham.ac.uk/~lgzwww/contacts/staffPages/stephenlegg/profile.htm>

**Dr Chris Stokes**

*Department of Geography, Durham University*

Dr Stokes has established his international reputation through widely cited papers on the recognition and characterisation of glacial bedforms, using satellite data. This has led to new directions in glaciological research, allowing interpretation of the dynamics of former ice sheets in both terrestrial and submarine settings. It has also provided important insights into the bed morphology of existing Antarctic and Greenland ice-sheets, that helps to enrich our knowledge of internal flow behaviour. His current work, with many international collaborators, has also expanded into the impact of climate change on mountain glaciers and links with glacier flow modelling. He now plans to study long-term ice-sheet behaviour, improving our understanding and predictions of modern-day ice sheets.

<http://www.dur.ac.uk/geography/staff/geogstaffhidden/?id=5244>

**Modern European Languages and Literature****Dr Laura Ashe**

*Faculty of English, University of Oxford*

Dr Ashe works in the challenging area of early Middle English literature and culture in the period from c.1000-1400, and she is one of the most accomplished medievalists of her generation. Her research is devoted to restoring this vital and often overlooked period to our understanding of English medieval literature, tracing the continuities which bind Old English to post-Conquest literature, and Latin and French to later Middle English. As her academic progress and publications indicate, including her first book *Fiction and History in England, 1066-1200* (CUP, 2007) and a generous number of articles, she is an exceptionally able scholar and critic. As such, she has received a major commission for the first volume of the Oxford English Literary History series, a remarkable achievement. Working extensively with texts in Anglo-Norman, Latin and English, Dr Ashe has a fearless and nuanced approach to reading early Middle English culture and the volume she will complete promises to be intellectually rigorous and genuinely ground-breaking.

**Dr Bettina Bildhauer**

*Department of German, University of St Andrews*

Dr Bildhauer's first book *Medieval Blood* (Cardiff: University of Wales Press, 2006) goes beyond literature to draw on evidence from medieval medical, legal, and religious writing in order to explore the assumptions with which medieval people thought about the body in general and blood in particular. The main, but not the sole focus is medieval Germany. She has also co-edited a book of essays, *The Monstrous Middle Ages* (Cardiff: University of Wales Press and Toronto University Press, 2003) on how medieval people perceived and imagined 'monsters', i.e. beings that seemed too misshapen and abnormal to count as human (including Jews within medieval anti-Semitism). She also teaches film studies and is now combining this with her medievalism by inquiring into how early film theorists looked back to medieval visual culture as a model for the modern cinema. She is an outstandingly dynamic and original young academic who has challenged the conceptual divide between the medieval and the modern.

<http://www.st-andrews.ac.uk/modlangs/german/staffprofiles/bildhauer/>

**Dr Philip Bullock**

*Sub-Faculty of Russian and Slavonic Languages, University of Oxford*

Dr Bullock has developed a versatile research profile centred on an overriding concern with gender roles and on the intersection between Russian literature and classical music. His background as a practicing pianist and organist, combined with an expertise in Modern Languages (Russian, French, and German), has equipped him with a unique set of tools that enables him to transcend disciplinary boundaries. His first book explored the re-fashioning of gender and sexuality in the utopian imagination of early Soviet culture, with a particular emphasis on the writer Andrey Platonov. His soon to be published biography of Rosa Newmarch investigates the role Russian music has played in Edwardian England as the model of a national music tradition as well as the role of female critics in pioneering a national musical culture. He is now engaged in a book-length study of the Russian art-song, a highly productive and influential musical genre, which articulates specific notions of gender and sexuality.

**Dr Santanu Das**

*Department of English, Queen Mary, University of London*

Dr Das has already established himself as a leading scholar in fields he has partly helped to create himself. His first book, completed while he was a British Academy Postdoctoral Fellow, was *Touch and Intimacy in First World War Literature* (CUP, 2005). This was compelling in the range and details of sources explored and illuminating in its analyses, and it has been widely cited and discussed. Dr Das's work has made a tangible difference to thinking about WWI literature, and war literature more broadly, and to the understanding of the relations between writing of many genres (from poetry to novels to diaries). His attention to touch and the tactile has played a major part in what is now a widespread interest in the ways in which sensory perceptions differently figure in the writing and experience of war. A second book on India, Europe and First World War writing is almost complete.

**Professor Lisa Downing**

*Centre for the Interdisciplinary Study of Sexuality and Gender in Europe, University of Exeter*

Professor Downing has received international recognition for her remarkable multidisciplinary research on French discourses of sexuality from the nineteenth century to the present day. Her methodology is to read closely across texts from a range of fields and disciplines — literature, film, medicine, criminology, sexology, psychoanalysis and ethical philosophy — to produce strikingly nuanced theoretical histories of culturally significant concepts. Her meticulous historical and textual scholarship, initially focused in nineteenth-century French literary constructions of necrophilia, has been widely recognised as contributing new insights to the disciplines with which she engages. Alongside recent work on the ethical dimension of cinema, where she challenges now standard psychoanalytical approaches to the representation of sexuality, her current major project is a monograph on the figure of the murderer in nineteenth-century Europe, approached through the incompatible constructions of this figure in aesthetic and scientific discourses.

<http://www.sall.ex.ac.uk/centres/cissge/content/view/322/3/>

**Dr Helena Sanson**

*Department of Italian, University of Cambridge*

Dr Sanson is a highly talented and innovative scholar who has opened up an exciting new area of interdisciplinary research in the field of Italian studies. By bringing together the history of linguistic thought and the history of women in Italy over a period of four centuries she has shown us how socio-linguistic issues and the social history of women can be mutually illuminating. Her first monograph on the use of language by women, as described in Renaissance conduct literature, was followed by a very ambitious account of women's relations to Italian language between 1500 and 1900. By drawing on a remarkable array of sources she tells the story of women's use of and contribution to the formation of the national language. Her current project on women as translators in eighteenth-century Italy will teach us much about the contribution women made to Enlightenment thought and the circulation of ideas.

**Performing and Visual Arts****Ms Nell Catchpole**

*Department of Professional Development, Guildhall School of Music and Drama*

Ms Catchpole specialises in cross-arts collaboration and the creation of new music, and she has worked on ground-breaking projects in theatre, dance, popular and contemporary music. She is comfortable working with many of the latest technologies, and her sensitivity and empathy with people and their cultural sensibilities has led to a number of extraordinary artistic outcomes. She co-founded the Gogmagogs and her musical leadership and acutely well-judged performance presence has ensured its continued success and international acclaim. One of Ms Catchpole's greatest strengths is her capacity to work as a collaborative musician - she has worked with Hofesh Shechter and Brian Eno, amongst others. Her recent and planned collaborations with Sophie Clements on a substantial performance/installation event continue to set new standards in the symbiotic relationship between vision and sound.

**Professor David Cotterrell**

*Department of Art and Design, Sheffield Hallam University*

Professor Cotterrell's work outlines a clear and focused trajectory; incorporating electronics, engineering and idiosyncratic objects and materials to create atmospheric, immersive and engaging environments for the audience. Of particular note is Professor Cotterrell's ambition to allow the interpretation and perception of his work to remain 'fluid', and not to be 'subsumed' by the technology he employs in his work. He has worked with a range of high-profile institutions, including the Wellcome Trust, the Courtauld Institute and the Institute of Contemporary Arts, London, and his work demonstrates a generous and engaged relationship with a variety of audiences and communities. He manages to tread a sophisticated line between the work of a contemporary artist and to manage successfully the more questionable definitions of 'research' in relation to 'art practice'.

<http://www.cotterrell.com>

**Dr Emma Hornby**

*Department of Music, University of Bristol*

Dr Hornby is a medievalist of considerable distinction whose work is characterised by its thoroughness and depth. She has developed analytical methodologies to answer fundamental questions about how medieval chant was composed and transmitted, and about what it meant to both performers and listeners. Past work addressed the origins and transmission of Gregorian chant, demonstrating that the origins of one genre of chants was Roman and from as early as the mid-eighth century. Her second monograph addresses the interaction of text and music in liturgical chant, enabling a new appreciation of the theological resonances and the aesthetics. These innovative and exciting findings are significant for medievalists from a wide range of fields. Dr Hornby's proposed new project involves the analysis of the chant of the Old Hispanic rite and promises to provide a unique insight into this little-known area of medieval chant.

<http://www.bristol.ac.uk/music/staff/eh>

**Ms Daria Martin**

*Ruskin School of Drawing and Fine Art, University of Oxford*

Working in 16mm film as her primary medium, Ms Martin is an active, internationally exhibiting filmmaker and considered one of the best and most original young artists working today. Her work has been exhibited at the 2005 British Art Show, the 2006 Tate Triennial and the 2008 Manifesta, and she has recently completed a very prestigious commission *Minotaur*, part of a collaboration by the New Museum of Contemporary Art, New York, the Museum of Contemporary Art, Chicago, and the Hammer Museum, Los Angeles. She is an artist of marvellous intelligence and creativity, whose substantial body of work has been built on a beautiful and refreshingly unfamiliar blending of the worlds of film, dance, sculpture and performance, illuminating embodied fantasies. Ms Martin's forthcoming project, *Empathy*, examines the concept of synaesthesia through the coming of age story of a sixteen-year old boy, and is the culmination of her research into film's capacity to translate senses.