

First recipients of prestigious Newton Advanced Fellowships announced

The Academy of Medical Sciences, the British Academy and the Royal Society have today (19 June) announced the first round of recipients of their new research funding scheme, the *Newton Advanced Fellowships*. The scheme provides established international researchers with an opportunity to develop the research strengths and capabilities of their research groups through training, collaboration and reciprocal visits with a partner in the UK.

Researchers in Brazil, China, Mexico, South Africa and Turkey will collaborate with research partners in the UK. It is anticipated the skills and knowledge gained through these partnerships should lead to changes in the wellbeing of communities and increased economic benefits for partner countries. Partner agencies in participating countries are also offering their own schemes which UK researchers can apply for.

The recipients receive funding for diverse research projects which include studying the anthropogenic pollution effects on clouds in the Amazon; evaluating the role of youth employability programmes in South Africa; understanding how risk behaviour shapes foreign capital flows to Turkey; designing photocatalysts for solar fuels; working on child obesity in Mexico; examining the effects of affirmative action in college admission on social mobility in Brazil; and a study on antibiotic resistance.

The full list of recipients and their UK partners is as follows:

Brazil

Dr Henrique de Melo Jorge Barbosa, University of Sao Paulo and **Professor Gordon McFiggans**, University of Manchester
Measurements and modelling of anthropogenic pollution effects on clouds in the Amazon

Professor Marilia Buzalaf, Bauru School of Dentistry, University of São Paulo and **Professor John Michael Edwardson**, University of Cambridge
Identification of proteins conferring protection against dental erosion

Dr Helena Cimarosti, Universidade Federal de Santa Catarina and **Professor Jeremy Henley**, University of Bristol
SUMOylation: novel neuroprotective approach for Alzheimer's disease?

Professor Fernanda das Neves Costa, Federal University of Rio de Janeiro and **Dr Svetlana Ignatova**, Brunel University
Countercurrent chromatography coupled with MS detection: tracking the large-scale isolation of target bioactive compounds to be used as starting material for the synthesis of new drug candidates

Professor Pedro Duarte, University of Sao Paulo and **Professor Sir David Hendry**, Nuffield College

Recent History of Macroeconomics and the Large-Scale Macroeconometric Models

Dr Cristina Eluf, State University of Bahia and **Dr Vander Viana**, University of Stirling
Corpus linguistics and teacher education: New perspectives for Brazilian pre-service teachers of English to speakers of other languages

Dr Fernanda Estevan, University of Sao Paulo and **Dr Thomas Gall**, University of Southampton
Affirmative Action in College Admission: Encouragement, Discouragement, and Social Mobility

Professor Marcio Ferreira, Universidade Federal do Rio de Janeiro and **Professor Jane Langdale**, University of Oxford
Towards crop improvement: manipulation of C4 photosynthesis

Professor Luciano Freschi, University of São Paulo and **Dr James Hartwell**, University of Liverpool
Functional genomics and hormonal regulation of Crassulacean acid metabolism (CAM) in a C4-CAM facultative species

Professor Erica Cristina Rocha Gorga, Fundação Getulio Vargas São Paulo School of Law (Escola de Direito de São Paulo da Fundação Getulio Vargas) and **Professor Luca Enriques**, University of Oxford
Shareholder Coalitions Across Countries: A Force for Good or Evil?

Professor Augusto Afonso Guerra Junior, Federal University of Minas Gerais and **Professor Marion Bennie**, University of Strathclyde
Prospective cohort of patients, systematic review and deterministic-probabilistic record linkage from the databases: Brazilian National Health System (SUS), Belo Horizonte. Minas Gerais

Professor Carlo Patti, Universidade Federal de Goiás and **Dr Benoit Pelopidas**, University of Bristol
Global Nuclear Vulnerability: the effects of the Cuban Missile Crisis on British, French and Brazilian nuclear policies

Dr Leonardo Marquez Pedro, Federal University of São Carlos and **Professor Etienne Burdet**, Imperial College London
Technology-based assessment and training of bimanual manipulation

Dr Amedea Seabra, Universidade Federal de São Paulo and **Dr Richard Weller**, University of Edinburgh
Nitric oxide donors to augment cutaneous nitrogen oxide stores

Dr Roberto Serra, Universidade Federal do ABC (UFABC) and **Professor Irene D'Amico**, University of York
Quantum thermodynamics in many-body systems

Dr Eliana Sousa Silva, Universidade Federal do Rio de Janeiro and **Professor Paul Heritage**, Queen Mary University of London

Someone to watch over me: new ways of understanding police, culture and the favela in Rio de Janeiro

Professor Carlos Thomaz, Centro Universitario da FEI (Fundacao Educacional Inaciana) and **Professor Daniel Rueckert**, Imperial College London

Learning and extracting priori-driven representations of face images to understand the human visual recognition system

Professor Daniela Vaz, Universidade Federal de Minas Gerais and **Professor Subhobrata Mitra**, Nottingham Trent University

The effect of attentional focus on movement coordination

China

Dr Xuecheng Bian, Zhejiang University and **Professor Jin Y. Ooi**, University of Edinburgh

Effect of particle shape, size and particle friction in granular solid flow in railway ballast

Professor Qin Chen, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences and **Professor David Cumming**, University of Glasgow

Integrated Terahertz Sensors

Professor Gong Cheng, School of Medicine, Tsinghua University and **Professor George Christophides**, Imperial College London

Mosquito C-type lectins facilitate dengue infection

Dr Xiang Cheng, Union Hospital, Tongji Medical College of Huazhong University of Science and Technology and **Professor Ziad Mallat**, University of Cambridge

The protective role of activated Regulatory T Cells in myocardial ischemia/reperfusion injury and the study of its mechanisms

Dr Liang Gao, National Astronomical Observatories, Chinese Academy of Sciences and **Professor Carlos Frenk**, Durham University

The formation of structure in a universe dominated by sterile neutrino warm dark matter: simulations and comparison with observations

Dr Longhua Hu, University of Science and Technology of China (USTC) and **Professor Michael Delichatsios**, University of Ulster

Scaling and modeling of soot, heat feedback and burning rate of large scale hydrocarbon pool fires in presence of wind

Dr Xun Huang, Peking University and **Dr Anurag Agarwal**, University of Cambridge

Theoretical developments and validations for new designs of acoustic cloak in turbulent flows

Dr Wenlin Li, Second Military Medical University and **Dr Huiliang Li**, University College London

Towards rapid and efficient production of oligodendrocyte precursors from human pluripotent stem cells

Dr Jiang Liu, Beijing Institute of Genomics, Chinese Academy of Sciences and **Dr Paola Oliveri**, University College London
Epigenetic control of development: Inheritance and reprogramming of parental DNA methylomes in sea urchins

Professor Wanqi Liang, Shanghai JiaoTong University and **Professor Malcolm Bennett**, University of Nottingham
Molecular mechanism and hormonal control of tiller growth vigour in rice

Professor Gang Liu, Institute of Metal Research, Chinese Academy of Sciences and **Professor John Irvine**, University of St Andrews
Designing layered photocatalysts with tailored properties for solar fuels

Professor Guangshuo Ou, Tsinghua University and **Professor Jordan Raff**, University of Oxford
*Dissection of molecular and cellular mechanisms of cilium assembly in *C. elegans* and *Drosophila**

Professor Tao Shao, Institute of Electrical Engineering, Chinese Academy of Sciences and **Dr Xin Tu**, University of Liverpool
Novel nanosecond-pulsed plasma/catalysis process for the conversion of methane into value-added fuels

Dr Jie Tang, Tsinghua University and **Dame Wendy Hall**, University of Southampton
Discovering Object Patterns Arising from Heterogeneous, Evolutionary and Large-Scale Online Social Networks

Professor Andrew Teschendorff, Chinese Academy of Sciences and Shanghai Institute for Biological Sciences and **Professor Stephan Beck**, University College London
Dissection of Intra-Sample Epigenetic Heterogeneity using Blind Source Separation Algorithms

Professor Fangwei Wang, Zhejiang University and **Professor Jonathan Higgins**, Newcastle University
Development of small molecule inhibitors of the mitotic kinase Bub1

Professor Lin Wang, Fudan University and **Professor Hugh Coe**, University of Manchester
Chemical analysis and precursor identification of secondary organic aerosols using FIGAERO-CI-ToFMS

Dr Xiaoqun Wang, Institute of Biophysics, Chinese Academy of Science and **Professor Zoltan Molnar**, University of Oxford
Molecular and cellular mechanisms underlying neurogenic division of OSVZ progenitors in the mammalian brain

Dr Yang Wang, Dalian Medical University and **Dr Judy Coulson**, University of Liverpool
Mechanistic study of the reduction of RBM4 in cancer and its role in regulating the oncogenic SRSF1

Dr Qi Yang, Xuanwu Hospital, Capital Medical University and **Professor René Botnar**, King's College London
3.0T Magnetic Resonance Delayed Enhancement Vessel Wall Imaging in Patients with Type 1 and 2 Diabetes

Professor Qingzheng Yang, Beijing Normal University and **Dr Roman Boulatov**, University of Liverpool
Stiff-stilbene powered photoactuation

Professor Xiangjiang Zhan, Institute of Zoology, Chinese Academy of Sciences and **Professor Michael Bruford**, Cardiff University
New methods to study altitudinal adaptation on the Tibetan Plateau

Professor Mao Ye, Dalian Institute of Chemical Physics, Chinese Academy of Sciences and **Professor Wuqiang Yang**, University of Manchester
Optimisation of methanol-to-olefins fluidised bed reactors by high-temperature electrical capacitance tomography

Dr Zongjun Yin, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences and **Professor Philip Donoghue**, University of Bristol
Decoding the Doushantuo

Professor Fu Yu, Institute of Microbiology, Chinese Academy of Sciences and **Dr Hasan Yardimci**, Cancer Research UK
Using single-molecule approaches to identify mechanisms of DNA replication timing

Dr Qiang Zhang, Tsinghua University and **Professor Magdalena Titirici**, Queen Mary University of London
New developments in graphene/hydrothermal carbon cathodes for durable Li-S batteries

Professor Yongqun Zhu, Life Sciences Institute, Zhejiang University and **Professor Gad Frankel**, Imperial College London
Molecular Mechanisms of the type III Effectors EspO and EspI from EPEC/EHEC

Mexico

Dr Ines Arroyo-Quiroz, Centro Regional de Investigaciones Multidisciplinarias (CRIM), National University of Mexico (UNAM) and **Dr Tanya Wyatt**, Northumbria University
International Trade in Wildlife involving Mexico: A Critical Appraisal of Wildlife Trade Dynamics between Mexico and the European Union

Dr Ruben Fossion, National Institute of Geriatrics and **Professor Maia Angelova**, University of Northumbria at Newcastle
Loss of complexity of human physiological signals with ageing and degenerative disease

Dr Luis Garcia-Naranjo, UNAM (National Autonomous University of Mexico) and **Dr James Montaldi**, University of Manchester
Geometric Methods for Nonholonomic Systems

Dr Nadia Martinez-Villegas, IPICYT, Instituto Potosino de Investigacion Cientifica y Tecnologica, A.C. and **Professor Bhaskar Sengupta**, Heriot-Watt University
Distribution of arsenic on agricultural soils and its influence on exposure risks through maize ingestion and agricultural activities in Matehuala, San Luis Potosi, Mexico

Dr Jose Martinez-Carranza, National Institute of Astrophysics, Optics, and Electronics (INAOE) and **Dr Walterio Mayol-Cuevas**, University of Bristol
RAFAGA: Robust Autonomous Flight of unmanned Aerial vehicles in Gps-denied outdoor Areas

Dr Sergio Navarrete Pellicer, Centro de Investigaciones y Estudios Sociales en Antropología social, CIESAS and **Dr Lucy Duran**, School of Oriental and African Studies
Afro-Mexican musical youth in Oaxaca: roots, creativity, community

Dr Rafael Peña-Miller, Centro de Ciencias Genómicas, Universidad Nacional Autónoma de México and **Dr Craig MacLean**, University of Oxford
Antibiotic resistance adaptation in fluctuating environments: from single-cells to bacterial communities

Dr Abril Saldana-Tejeda, Universidad de Guanajuato and **Professor Peter Wade**, University of Manchester
Genomics and child obesity in Mexico: the resignification of race, class, nation and gender

South Africa

Professor Hasani Chauke, University of Limpopo and **Professor Richard Catlow**, University College London
Computational Modelling for Titanium Development

Dr Karen Cohen, Groote Schuur Hospital and University of Cape Town and **Professor Munir Pirmohamed**, University of Liverpool
Drug induced liver injury due to anti-tuberculosis treatment: predictive mechanism-based biomarkers and genetic associations.

Professor Keertan Dheda, University of Cape Town and **Dr Taane Clark**, London School of Hygiene and Tropical Medicine
Using whole genome sequencing to identify genetic features of Mycobacterium tuberculosis that correlate with drug susceptibility and clinical outcome in a prospective study of patients with XDR-TB.

Dr Nico Fischer, University of Cape Town and **Professor Graham Hutchings**, Cardiff University

Phase transformations of nano-particulate heterogeneous catalysts captured in-situ

Dr Lauren Graham, University of Johannesburg and **Professor Andy Furlong**, University of Glasgow
Youth transitions to work in South Africa: Evaluating the role of youth employability programmes

Dr Chandre Gould, Institute for Security Studies and **Professor Brian Rappert**, University of Exeter
Cataloguing Secrets, Transforming Justice: An Innovative Manuscript and an Interactive Archive

Dr Julia Goedecke, Non-Communicable Diseases Research Unit, South African Medical Research Council and **Professor Brian Walker**, University of Edinburgh
Non-communicable disease risk in black South Africans: dissecting the role of glucocorticoids.

Dr Agostino Pietro Maria Inguscio, University of Cape Town and **Professor Deborah Oxley**, University of Oxford
Establishment of the Programme in Global Economic History at UCT

Dr Pieter Levecque, University of Cape Town and **Professor Andrea Russell**, University of Southampton
Advanced X-ray and Fundamental studies of Pt electrocatalysts supported on doped SiC and B4C

Dr Lisa Micklesfield, University of the Witwatersrand and **Dr Soren Brage**, University of Cambridge
Physical activity and components of body composition and growth in cohorts of black South African participants at different stages in the life course

Professor Marlien Pieters, North-West University and **Dr Fiona Green**, University of Surrey
The role of plasma levels and genetics of haemostatic factors in cardiovascular disease development in Africans

Professor Geo Quinot, Stellenbosch University and **Professor Sue Arrowsmith**, University of Nottingham
Developing the scholarship of African public procurement regulation

Dr Joseph Raimondo, University of Cape Town and **Professor Colin Akerman**, University of Oxford
Cellular mechanisms of epilepsy in neurocystercosis

Dr Deborah Seddon, Rhodes University and **Dr Andrew van der Vlies**, Queen Mary University of London
An Arc to the Future: Preserving and Promoting Orature in the South African Literary Imaginary

Professor Stephanus Jacobus van Zyl Muller, Stellenbosch University and **Dr Jonathan Eato**, University of York

South African Jazz Cultures and the Archive

Turkey

Dr Elif Alkay, Istanbul Technical University and **Professor Craig Alexander Watkins**, University of Sheffield
Construction, economic development, and planning policies: investigating the causal links

Dr Gorkem Akgoz, Hacettepe University and **Dr Nicola Pizzolato**, Middlesex University
Back into the factory: writing theory and practice of the industrial workplace into 21st century history and social theory

Dr Banu Kavakli Birdal, Istanbul Kemerburgaz University and **Professor Dominic Abrams**, University of Kent
Perception of and Attitude towards the Syrian Refugees in Turkey

Dr Memed Duman, Hacettepe University and **Dr Humphrey Yiu**, Heriot-Watt University
A Surface Plasmon Resonance (SPR) Sensor System using Molecular Imprinted Polymer-Nanoparticle composites for Ultrasensitive detection of Pharmaceutical Emerging Contaminants in Fresh Water Sources

Dr Ceyhun Elgin, Bogazici University and **Dr Cem Oyvatt**, University of Greenwich
Wage-Led vs. Profit-Led Growth: A Comprehensive Empirical Analysis

Dr Berat Haznedaroglu, Bogazici University and **Professor Alison Gail Smith**, University of Cambridge
Cellular and Molecular Characterization of Non-model Microalgae for Maximized Lipid Synthesis

Dr Feyza Kazanc, Middle East Technical University and **Dr Hannah Chalmers**, University of Edinburgh
Flexible Oxy-Combustion for Turkish Fuels

Professor Alptekin Küpçü, Koç University and **Dr Emiliano De Cristofaro**, University College London
Password-based and Social Authentication: Preventing Phishing and Malware

Dr Mehmet Kurt, Bingol University and **Professor Penelope Jane Green**, Queen Mary University of London
Islamist Radicalisation, Civil Society and the State in Southeastern Turkey

Dr Fitnat Banu Demir Pakel, Bilkent University and **Professor Beata Javorcik**, University of Oxford
Using Processing Trade to Facilitate Innovation in Response to a Competitive Shock

Dr Tevfik Emre Serifoglu, Bitlis Eren University and **Dr Naoise Mac Sweeney**, University of Leicester

Vanishing Landscapes: The Lower Göksu Archaeological Salvage Survey

Dr Lucas Thorpe, Bogazici University and **Dr Sasha Mudd**, University of Southampton
Agency and autonomy: Kant and the normative foundations of republican self-government

Dr Gunder Varinlioglu, Mimar Sinan Fine Arts University and **Professor Sam Turner**, Newcastle University
New approaches to historic landscapes: Bogsak in Isauria

Dr Engin Volkan, Istanbul Bilgi University and **Dr Mehmet Pinar**, Edge Hill University
Designing Composite Indices for Risk Factors and Risk Avoidance: International Capital Flows and World Income Inequality

The *Newton Advanced Fellowships* are supported through the Newton Fund, a £375 million fund (£75 million a year for five years) which, through science and innovation partnerships, aims to promote the economic development and welfare of poor people in developing countries. The fund is overseen by the Department for Business Innovation and Skills (BIS) and delivered through 15 delivery partners in collaboration with 15 partnering countries.

The Fellowships awarded will last for up to three years and are support researchers across the natural sciences, medical sciences, social sciences and humanities. Recipients will receive up to £37,000 for each year.

Further information on the scheme is available on each of the academies websites:

www.britac.ac.uk/newton-advanced-fellowships

<http://www.acmedsci.ac.uk/careers/funding-schemes/newton-advanced-fellowships/>

<https://royalsociety.org/grants/schemes/newton-advanced-fellowships/>

The Academy of Medical Sciences, the British Academy and the Royal Society are partnering with the following organisations to deliver the Newton Advanced Fellowship:

Chinese Academy of Sciences

National Natural Science Foundation of China

The Brazilian Council of State Funding Agencies

National Research Foundation

Mexican Academy of Sciences

National Council of Science and Technology - CONACyT

The Scientific and Technological Research Council of Turkey - TUBITAK

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NOTES TO EDITORS:

1. The Royal Society is a self-governing Fellowship of many of the world's most distinguished scientists drawn from all areas of science, engineering, and medicine. The Society's fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

The Society's strategic priorities are:

- Promoting science and its benefits
- Recognising excellence in science
- Supporting outstanding science
- Providing scientific advice for policy
- Fostering international and global cooperation
- Education and public engagement

For further information please visit <http://royalsociety.org>. Follow the Royal Society on Twitter at <http://twitter.com/royalsociety> or on Facebook at <http://www.facebook.com/theroyalsociety>.

2. The British Academy is the UK's national academy for the humanities and social sciences. Its purpose is to inspire, recognise and support excellence in these disciplines throughout the UK and internationally, and to champion their role and value. More information about the Academy's work is available at www.britac.ac.uk. Follow the British Academy on Twitter at http://twitter.com/britac_news.

3. The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences. www.acmedsci.ac.uk @acmedsci

4. The Newton Fund is a £375 million fund (£75 million a year for five years) which, through science and innovation partnerships aims to promote the economic development and welfare of poor people in developing countries. The fund is overseen by the Department for Business Innovation and Skills (BIS) and delivered through 15 delivery partners in collaboration with 15 partnering countries. More at www.newtonfund.ac.uk. Follow the Newton Fund on twitter @NewtonFund