17 April 2015

PAUL M^{c}MAHAN MATTHEWS

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PRIMARY APPOINTMENTS

July, 2014-

Edmond and Lily Safra Professor of Translational Neuroscience and Therapeutics, Division of Brain Sciences, Department of Medicine, Imperial College London

Secured endowment for, and first holder of, new Chair associated with the Divisional Head and posts (Edmond and Lily Safra Scholars) accompanying its foundation.

April, 2012-

Professor and Head, Division of Brain Sciences, Department of Medicine, Imperial College London

Leading a new integration of over 70 academics all clinical and basic neurosciences, neuropsychopharmacology, neurology and mental health within a Division of 200 staff in the Faculty of Medicine with senior management responsibilities across the three academic hospital sites of Imperial College, London. Additional responsibilities as Deputy Director (2008-) of the Wellcome Trust- GSK Translational Medicine Training Programme, Deputy Director (2011-) of the BRC Institute for Translational Medicine and Therapeutics, Biomedical Research Centre (BRC) Theme Lead for Neuroscience, co-Director of the Neurotechnology Network and the EPSRC Centre for Doctoral Training in Neurology and Research Advisory Board for the Data Science Institute.

July, 2012- February 2014

Vice-President for Integrative Medicines Development, Neurosciences and Medicine Development Lead, GlaxoSmithKline (joint appointment with Imperial College)

Leading late phase development programme. Senior advisor to the Head of Neurosciences and China R and D with specific accountabilities for early phase neuroinflammatory disease strategy support to the Neuroinflammation DPU Head and Leadership Team and for cross-unit imaging strategy. Leader in external engagement for multiple sclerosis asset development. Responsibilities also include:

2010- Chair, Scinovations Committee, the major external science forum for GSK R and D, responsible for high-profile lectures and an annual GSK science sympsoium

2010- Experimental Medicine and Targets Advisory Board, which includes senior clinical scientists and special advisors to the President, GSK Pharma R and D and has a remit to define, implement and monitor GSK strategies for physician –scientist recruitment and new medicines concept development

2008- UK External Policy Committee, a senior committee with a remit to coordinate the GSK R and D responses and engagement with UK academia, external business and government

2005- Chair, Peer Review Forum, the (weekly) scientific review body for all early phase clinical protocols in Drug Discovery

RECENT APPOINTMENTS BY THE SAME EMPLOYERS

Oct 2011- June, 2012

Vice-President for Imaging; Head, Global Imaging Unit (GIU), Center for Clinical Studies Excellence, GlaxoSmithKline. I created and led GIU as an expert group with a remit to champion imaging experimental medicine as a disruptive technology in clinical drug development. GIU coordinates investment and applications of imaging across GSK R and D. GIU leads in concept and implementation of translational or clinical imaging strategies to drive high-value assets with a focus on neurology, oncology and immune-inflammatory disorders. GIU partners with an international group of external imaging experts and centres of imaging research excellence. GIU also manages the £15 million investment in GSK access to London's Imanova- the public-private partnership arising from successful externalisation of the former GSK Clinical Imaging. *Major accomplishments:* creation of GIU and hiring of staff (including recruitment of my successor); development of external and internal operations network; initiation of programme partnerships across therapeutic areas

Oct 2005- Oct 2011

Vice-President for Imaging; Head, GSK Clinical Imaging Centre (CIC), GlaxoSmithKline. Concept and implementation of imaging experimental medicine for early clinical development or differentiation of GSK assets (particularly those in Neuroscience and Psychiatry development units); responsible for strategy and leadership for imaging in the support of drug development and providing focused guidance of innovation in imaging across GSK Pharma R and D; roles as Chief Executive Officer and Chief Scientific Officer of the £46 million clinical imaging centre on the Hammersmith Hospital campus which employs a staff of 120 (70 GSK FTEs) with an approximately £20 million annual budget (for external and internal spend). *Major accomplishments:* developed and implemented vision for the CIC, the pharma industry's first in-house clinical imaging unit; responsible for facilities completion and recruitment to peak staff of 70 FTE and 50 contingent workers, part-time staff and fellows/students from starting base of 11 FTE; created structures and integrated imaging group with project teams across GSK R and D; established strategic, productive alliances with UK universities and selected imaging companies and led in development of a new scientific partnership model; delivery of 23 experimental medicine studies supporting assets (including albiglutide, lapatinib.

dustasteride, Alli, NiQuitin and multiple early assets) from across multiple GSK units (including the former Neurosciences CEDD, China R and D, Metabolic CEDD, Academic DPU, Rare Diseases Unit and the Oncology Unit); development of unique training environment for imaging in experimental medicine; delivery of new science championing GSK commitment to "open science" with more than 200 peer-reviewed publications coming out of the CIC between 2007-2011; lead transformation of the CIC into a novel UK public-private partnership (Imanova) to better leverage external resources for innovation.

Oct 2006- March 2008

Vice-President for Imaging, Neurology and Genetics

Following hiring as Head of the Imaging Unit, I was asked to assume additional responsibilities to lead a strategic re-focusing of GSK Medical Genetics involving additional management of 35 specialist staff and annual budget of over £6 million/yr responsible for execution of population-based biomarker studies and whole genome studies of over 17,000 patients covering neuropsychiatry, metabolic, cardiovascular and respiratory disease. *Major accomplishments:* reorganised group and transitioned successfully from data collection to strong partnerships for delivery of a succession of replicable whole genome association outcomes; added value and ensured opening of access to genetic datasets by engaging closely with the MRC, NIH and major academic centres; led in recruitment of new SVP head of Genetics and ensured smooth transition of leadership.

Sept 2006- March 2013

Professor of Clinical Neurosciences, Centre for Neuroscience, Department of Medicine

Research post, also responsible for fostering integration of the GSK facility on the Hammersmith campus; teaching for the MSc and PhD programmes in Translational Medicine

ADDITIONAL AND HONORARY APPOINTMENTS

2015-	Visiting Professor, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
2014-	Hon. Professor, School of Medical and Veterinary Sciences, Edinburgh University
2013-	Imperial College Healthcare Trust Biomedical Research Centre Neuroscience Theme Lead
2012-	Honorary Associate Professor, University of Maastricht
2011-	Visiting Associate Professor, Maastricht University
2010-	Visiting Professor, Department of Clinical Neurology, University of Oxford
2009-	Hon. Consultant Neurologist, Oxford Radcliffe Hospitals Trust, Oxford
2008-	Hon. Professor of University College London at the Institute of Neurology
2007-	Hon. Consultant Neurologist, Imperial College Academic Health Sciences Centre, Hammersmith Hospital, London
1997-	Fellow by Special Election, St. Edmund Hall, University of Oxford
1996-	Adjunct Professor of Neurology, McGill University

PROFESSIONAL CERTIFICATIONS

2000	Fellow, Royal College of Physicians
1995	General Medical Council Registration No. 4250225
1993	Specialist Certificate (Neurology), Professional Corporation of Quebec
1992	Certificate in Neurology, American Board of Psychiatry and Neurology
1990	Specialist Certificate in Neurology, Royal College of Physicians and Surgeons, Canada (FRCPC)
1987	Diplomate, National Board of Medical Examiners

EDUCATION AND PROFESSIONAL EXPERIENCE

Education

1974-78	BA (Hons), Honour School of Natural Sciences (Chemistry), St. Edmund Hall, University of Oxford
1978-82	D. Phil., Dept. of Biochemistry, University of Oxford
1983-86	M.D., Stanford University School of Medicine

Postgraduate Training

Research

1982-83	Postdoctoral Fellow, Dept. of Biochemistry and Clinical Magnetic Resonance Laboratory, Radcliffe Infirmary, University of Oxford
1983-84	Postdoctoral Fellow, Dept. of Pharmacology, Stanford University
1989-90	Clinical Research Fellow (Neurogenetics), Montreal Neurological Institute, McGill University
1990-93	MRC (Canada) Clinician-Scientist, Genetics Laboratory, Department of Biochemistry, University of Oxford

Medicine

1986-87	Intern (Medicine), Stanford University Medical Centre
1987-90	Resident in Neurology and Chief Resident (1989), Department of Neurology and Neurosurgery, McGill University, Montreal, Canada
1991-93	Hon. Senior Registrar and Acting Clinical Lecturer, Department of Clinical Neurology, University of Oxford

Previous Academic and Hospital Appointments by other employers

2004-2005 Head, Department of Clinical Neurology, University of Oxford
1998-2005 Professor of Clinical Neurology, University of Oxford
1996-2006 Hon. Consultant in Neurology, Oxford Radcliffe Trust
1995-2005 Director, Oxford Centre for Functional Magnetic Imaging of the Brain
1995-98 Reader in Neurology, University of Oxford
1993-96 Assistant Professor of Neurology and Neurosurgery and Human Genetics, McGill University, Montreal, Canada
Staff Neurologist, Montreal Neurological Hospital
Attending Neurologist, Montreal Children's Hospital
Attending Neurologist, Jewish Rehabilitation Hospital

CURRENT AND RECENT EXTERNAL COMMITTEE SERVICE

UK Research Council and related

2014- Director, Translational Research Centre-Dementia (TRC-D), Imperial College London
2013- Steering and Executive Committee, Dementia Platforms UK and Chair, Dementia Platforms UK Imaging Network
2012 Japan Science and Technology Research Council-MRC Committee for Bilateral Science
2012 MRC Advanced Translational Training Panel (Chair, Imaging Sub-Panel)
2011 EPSRC Medical Imaging Technologies Review Working Group
2011- Research Excellence Framework (REF) Sub-Panel 4: Neurosciences
2011 BBSRC, MRC and Wellcome Trust 'Post-Weatherall' 10 year Review Committee on Non-human Primates Research
2010 Research Excellence Framework (REF) Impact Pilot Panel
2009- UK Biobank Imaging Enhancements Working Group
2009-11 MRC Industrial Collaborative Training and Career Panel
2008-10 MRC Translational Medicine Group
2008- MRC NMHB SPOG PET Strategy Group
2007 MRC NMHB SPOG Addiction Strategy Steering Group
2007-09 MRC Toxicology Unit National Training Scheme Steering Committee
2007-09 Co-chair, MRC-GSK Complex Genetics Initiative
2006-08 MRC Neurosciences and Mental Health Strategic Portfolio Oversight Group (SPOG)
2006 MRC Experimental Medicine Panel
2004-10 MRC Neurosciences and Mental Health Board

Charities

2014- Chair, *Brain* Board of Management
2012- Working Party on Genomics, Health Records, Database Linkage and Privacy, Nuffield Council on Bioethics
2011- Chair, Imaging Enhancements Working Group, UK Biobank
2011- UK Biobank Steering Group
2011 NC3R Working Group on Metrics
2010 British Neurosciences Association Scientific Advisory Group
2009-12 MS Society of Great Britain/Northern Ireland, Research Strategy Group
2009-10 Association of British Pharmaceutical Industries Working Group on Stratified Medicines
2009- Scientific Advisory Panel, Oxford Parkinson's Disease Group
2006-08 MS Society of Great Britain/Northern Ireland, Strategy Advisory Board

International

2014-15 Chair, Academy of Finland Scientific Review Panel
2014 Brain Canada Multi-Investigator Research Initiative Selection Committee
2014- American Institute of Biological Sciences Oversight Panel for the New York Consortia to Accelerate Applications of Stem Cells
2014- Scientific Advisory Board, International Conference on Brain Engineering and Neuro-computing (IC-BrainEngiNe)
2014 *Ad hoc* member, NIH NINDS Board of Scientific Counselors
2013- International Steering Group for the Literature and Science Programme
2013- Hon. President (2014-) (Hon. Vice President [2013-14]), London Healthcare Forum, Korean Health Industry Development Initiative
2013- Steering Committee, Multiple Sclerosis Outcomes Assessment Committee, Critical Path Institute, USA (Regulatory Task Force, Feb 2014-)
2013 External Review Panel, Donders Institute, June 2014
2013 Chair, NC3R Imaging Technology Development Panel and Symposium, May 2013
2011- International Steering Committee, Clusters of Excellence in Neurodegeneration (COEN) Research Network
2011 Chair, Canadian Institutes of Health Sciences, National Imaging Consortia Competition

2010- International Jury, Wiener Wissenschafter-, Forschungs- and Technologies- Fond (Chair, 2014)
2009 Canadian Institutes of Health Sciences, special working group for national review of imaging strategy
2004- Member, European Dana Alliance

AWARDS

- NIHR Senior Investigator (2015)
- Fellow of the Academy of Medical Sciences (2014)
- Hon. Officer of the Order of the British Empire (2008) awarded for services to neuroscience
- Elected Membership, Association of Physicians (2010)
- MRC Clinical Research Professor (2000-08) (full salary and research support competitively awarded in national competition for excellence in research, transitioning to honorary appointment with research funding after taking up GSK position [2005-08])
- MRC Clinical Research Reader (1995-2000) (full salary and research support, competitively awarded in national competition for excellence in research)
- Feindel Neuroimaging Lectureship (2009), McGill University
- Elected and renewed serially as a Fellow by Special Election, St. Edmund Hall, University of Oxford (1997-present)
- MRC (Canada) Clinician-Scientist Award (1990), competitive 5 year full salary and research support award for clinician-scientist career development
- Penfield-McNaughton Award (1990), awarded annually by the Montreal Neurological Institute to most outstanding leaving specialist trainees
- Foulkes Foundation Clinician-Scientist Training Award (1982), nationally competitive full tuition award for non-clinical scientist to train in medicine
- National Science Foundation Pre-doctoral Fellowship (1979), research support and tuition costs for DPhil in Oxford

CURRENT AND MAJOR EXTERNAL RESEARCH AND TRAINING GRANTS

Principal Investigator

- NIHR Senior Investigator award. £450,000 (£375,000 to ICH Trust) (1st April 2015- 31st March 2020).
- MRC Capital Research Infrastructure Bid, UKDP: Integrated DEmentiA research environment (IDEA). Imperial College PI and UKDP Imaging Network Lead responsible for national imaging component (£20 million, on behalf of 6 universities [Imperial College component, £5.6 million) of the £40 million total bid, Dr. J. Gallacher, PI).
- MS Society of Great Britain and Northern Ireland Innovation Grant. Assessing myelostructure as an index of grey matter disease progression in multiple sclerosis using high-resolution, 1 dimensional MRI. PI, £40,000 (1 Oct 2014- 31 Sept 2015).
- International Progressive MS Alliance Pilot Grant. Novel enabling infrastructure for outcomes monitoring: dynamic remote performance capture to assess disability in progressive multiple sclerosis, €74,995 (1 Aug 2014-31 July 2015, PA 0103)
- Imperial College Healthcare Trust NIHR Biomedical Research Centre, Towards rapid, expression-based pharmacodynamic medicines stratification, PI, £200,000 (1 April 2014-31 March 2016)
- Biogen IDEC, The OPTIMISE Portal: a flexible, eTRIKS-based platform for MS data capture and sharing, PI, €725,000 (1 Sept 2014-31 Aug 2017, subject to contract)
- MRC Collaborative Training Programme for NeuroPET (PI, £599,998) (2010-2013)
- MRC Equipment Grant, Functional Imaging of the Heart and Brain (PI, £134,000) (2004)
- MRC, Linking structure and function in the normal and in the diseased human brain (PI, £1,050,000) (2003-2008)
- MRC, Towards quantitative fMRI for serial studies of the normal and diseased brain (PI, £585,677) (2003-2008)
- MRC, Mechanisms of long-term recovery with subcortical ischaemic disease (PI, £1,179,802 plus funding for MRC Clinical Research Professorship) (2002-2007)
- MRC, FMRIB Core facility extension (PI, £420,743) (2002-2003)
- MRC, Functional imaging of the heart and brain (Cooperative Group Grant) (PI, £351,992) (2000-2004)

Co-Principal Investigator

- UK Dementias Platform Capital Research Infrastructure (co-PI for £20 million multi-institution imaging component [£5.6 million to Imperial College] with UKDP Lead as PI), MRC Capital Award (Oct 2014-March 2016)
- UK Biobank Imaging Enhancement Pilot (co-I [with Biobank CEO as PI] and Chair, Imaging Working Group), Pilot phase, £10 M with trigger for additional £26M), MRC/Wellcome Strategic Award (2013- 2015 pilot with trigger for 2015-2019)
- FP7, Neurophysics- Methods in Neuroimaging (co-PI and UK Lead, €659,602) (2010-14)
- Wellcome Trust-GSK Training Programme in Translational Medicine (co-PI and Deputy Director, £5,500,000) (2009-2017)

- MRC, Anatomical Connectivity in Adolescent-onset Schizophrenia (co-PI, £168,000) (2005-2007)
- BBSRC, The neural architecture of primate visuospatial attention (co-PI, £162,930) (2004-2007)

Co-investigator

- Joint Programme- Neurodegenerative Disease, Realising the potential of cohort studies to determine the vascular contribution to neurodegeneration, Working Group Infrastructure Funding, co-I (Prof. J. Wardlaw, PI) €47,416 (1 Oct 2014- 31 March 2015)
- MRC, MRC Dementias Platform, co-I, £4.5 M (1 April 2014-31 March 2019) MR/L015382/1
- MRC, MICA. Assessing tau levels after traumatic brain injury (TBI) using [18F]T807 positron emission tomography (PET), co-I, £550,000, (1 June 2014- 28 May 2016, MR/L022141/1)
- EPSRC Centre for Doctoral Training in Neurotechnology (Co-PI, £10.2m) (2014-2019, EP/L016737/1)
- MRC Project Grant, Identification of genetic variants underlying Type 2 diabetes in UK Indian-Asians (co-PI, £600,006) (2007-10)

RESEARCH TRAINEES

Doctoral students

1992-1996 Masha LeGris, DPhil
1994-1997 Jules Griffin, DPhil
1996-1999 Sarah Pendlebury, DPhil
1997-2000 Martin Lee, DPhil
1997-2000 Niko Evangelou, DPhil
1998-2001 Hasini Reddy, DPhil
1998-2001 Heidi Johansen-Berg, DPhil
2000-2003 Allyson Parry, DPhil
2000-2003 Vivian Austin, DPhil
2000-2003 Donna Lloyd, DPhil
2001-2004 Afua Basoah, DPhil
2001-2004 Charvy Narain, DPhil
2001-2004 Anna Floyer, DPhil
2000-2004 Ron Heal, DPhil
2001-2005 Sheela Saini, DPhil
2001-2005 Teddy Tjandra, D Phil
2001-2004 Marko Bogdanovic, MD
2002-2005 Marilena de Luca, D Phil
2002-2005 Natalie Voets, D Phil
2002-2005 Yasir Obu-Omar, DPhil
2002-2006 Stephanie Manson, DPhil
2003-2006 Sean David, D Phil
2003-2006 Helen Jamison, DPhi
2003-2006 Christine Wegner, DPhil
2003-2006 Sarah Cader, DPhil
2003-2006 Ian Pomeroy, DPhil
2004-2007 Charlotte Stagg, DPhil
2005-2009 Rose Bosnell, DPhil
2008-2011 David Owen, PhD
2008-2012 Paul Shotbolt PhD
2010- Evangelos Russo (PhD expected 2014)
2010- Rhamzi Kamzis (PhD expected 2014)
2010- Alessandro Colassanti (PhD expected 2014)
2011- Jaime Vera (PhD expected 2015)
2013- Gourab Datta (PhD expected 2017)
2014- Arie Gafson (PhD expected 2017/18)

MSc research students

1998 Elizabeth Tunbridge
1998 Josephine Raley
1998 Heidi Johansen-Berg
2000 Anna Floyer
2003 Catherine Whitwood
2003 Cherif Sayhoun
2003 Emma Sillery
2003 Kate Sheehan
2004 Siri Braathen
2004 Tobias Overath
2004 Tim Senior
2004 Sarah Carrington

PUBLIC ENGAGEMENT WITH SCIENCE

Committed communicator of science with active participation in Dana Alliance public events (e.g., 2009 British Association for the Advancement of Science, 2013 An Evening with Andrew Marr [*lecture on Art and Neuroscience*], Charing Cross Hospital, 2012 Cold Spring Harbor Workshop on *Literature and the Brain* and *Science* and *Art Symposium,* Wolfson College, Oxford, 2011 *Stay Sharp,* conference speaker 2013 ICLA Symposium Lecture), GSK and Royal Institution press (appearances on BBC radio and television [including Newsnight, 27 July, 2011], press briefings on GSK strategies) and political briefings (hosting high level parliamentary, European parliamentary and civil service visitors to CIC over last few years) and interviews in review articles across lay and scientific press including Nature, Nature Reviews Neuroscience, Science and on-line (see e.g., "Meet the Boss" on YouTube). Selected as a lead for presentation of the Nuffield Council on Bioethics "Big Data" Report, 2015.

PROFESSIONAL SOCIETIES

Royal College of Medicine, Association of British Neurologists, American Academy of Neurology, Society for Neuroscience, International Society for Magnetic Resonance in Medicine, British Neuroscience Association

CLUB

Athenaeum

RECENT EXTERNAL SPEAKING ENGAGEMENTS

2015

Pervasive Actigraphy and EEG Monitoring for Multiple Sclerosis
Sensors in Medicine 2015, London
March 2015

Global Collaboration and Initiatives
2015 WKMO European Forum & London Health Forum, London
March 2015

Big data for healthcare research: UK Biobank and Dementias Platforms UK
UK-Korea Future Health Forum, Seoul, Korea
March 2015

Molecular imaging of microglia in multiple sclerosis and the intriguing biology of the 18 kD mitochondrial translocator protein (TSPO)
TMII Seminar Series, New York, USA
March 2015

Accessing New Tools for Clinically-focused research in Neurology: patient monitoring sensors and "Big Data" resources
Imperial College London Division of Brain Sciences' lecture series, London
February 2015

2014

Brain health: it takes more than pills and potions
Inaugural lecture of Professor Paul M Matthews, Edmond and Lily Safra Chair in Translational Neuroscience and Therapeutics
November 2014

Neuroscience "guerrilla warfare" in the fight against dementia
Neuroscience & Mental Health Research Institute seminar series, Cardiff, UK
November 2014

PET imaging of inflammation and myelin: new opportunities and challenges
Neurimmunology and Clinical Multiple Sclerosis Research) series, Zurich
October 2014

Smartphones for Mental Health
Imperial College-Huawei Workshop on Big Data, London
September 2014

Personalized medicine: Can we tailor individual therapy for patients?
World Congress on NeuroTherapeutics Dilemmas
Basel, Switzerland
September 2014

Translational neuroimaging: has the "cutting edge" had clinical impact?
William Moore Memorial Lecture, British Chapter ISMRM, Edinburgh
September 2014

Medical need, large group studies and emerging opportunities for advances in MRI and PET imaging
Institute of Physics Plenary Lecture at the Institute of Physics and Engineering in Medicine Annual Conference, Glasgow
September 2014

Grand challenges mean great opportunities: emerging science to transform future healthcare
Invited Lecture, Zheijing University, Hangzhou, China
July 2014

Ethical considerations for research imaging: maintaining privacy, autonomy and the management of unexpected finding
Invited Lecture, Organisation for Human Brain Mapping Annual Meeting, Hamburg, Germany
June 2014

Building on a translational academic hospital ecosystem to address the challenges of dementia
Korea-UK Research Driven Hospitals International Forum, Seoul, Korea
June 2014

UK Biobank - Design and Outlook
Invited Symposium Lecture, German Radiology Congress, Hamburg, Germany
May 2014

The Physician's Expectations for Human UHF
Plenary Lecture, International Society for Magnetic Resonance Annual Meeting
Milan, Italy
May 2014

Connectivity Studies in Large Populations
Invited Educational Lecture, Teaching Session, International Society for Magnetic Resonance Annual Meeting
Milan, Italy (Outstanding Teacher Award Winner)
May 2014

Standardization of Data for Clinical Care and Clinical Trials
Invited Lecture, Multiple Sclerosis Outcomes Assessment Consortium/FDA Workshop, Bethesda, USA
April 2014

Strategies for patient stratification
Invited Lecture, Multiple Sclerosis Disease Workshop: “Towards a No Evidence of Disease Paradigm”, London
March 2014

Brain Plasticity and the Conundrum of Disability Progression in Multiple Sclerosis
Invited Lecture, Canadian MS Society National Neuroinflammation Symposium, Toronto, Canada
February 2014

Imperial Brain Sciences and a College commitment to Public-Private Partnerships for Therapeutics Development
MRC Clinical Sciences Centre Innovation Workshop, London
February 2014

2013
Molecular imaging in new medicine development
International Symposium on Drug Development Imaging Technology, Hanyang University, Seoul, Korea
December 2013

Clinical imaging for new medicine development
Samsung Medical Centre, Seoul, Korea
December 2013

Innovation challenges for clinical imaging in new drug development
Gil Medical Centre, Seoul, Korea
December 2013

Beyond mere biomarkers: taking on the challenge of stratified medicine
Distinguished Lecture, MS Masterclass, Bristol

The Art of the Brain and understanding the Brain through Art
Invited speaker, An Evening with Andrew Marr in Aid of the Stroke Unit, Charing Cross Hospital
October 2013

So you want to develop a drug?
Invited speaker, MRC Seminar Series
October 2013

Imaging in UK Biobank
Invited speaker, Annual Royal College of Radiologists/Wellcome Trust Research day, London
October 2013

UK Biobank: the imaging enhancement and promise as a platform for dementia research
Keynote Speaker, 2nd International Conference on the Standard Construction of Beijing Biobank of Clinical Resources, Beijing
September 2013

The UK-Korea Academic Health Science Alliance Initiative
Convenor's Introduction, London Health Forum
September 2013

Raising the Bar in MS
Invited Speaker, AIMS regional meeting, London,
September 2013

Dementia and the fragmentation of the self (read by Dr. Jan Winkowski)
Invited Symposium Speaker and Workshop Co-convenor, International Comparative Literature Annual Conference, Paris
July 2013

Neurotechnology as a therapeutic modality
Invited Speaker, Tsinghua University, Beijing, China
July 2013

Entering a new era of large scale, open imaging resources
Invited Lecture, Imaging Neurodegeneration and Neuroprotection in MS Symposium, London
July 2013

Major problems in MS
Invited Speaker, ISMRM Educational Symposium: Multiple Sclerosis as a Whole-Brain Disease, UCL, London
June 2013

Imaging technology development for the 3Rs
Invited Chair, NC3Rs/ESP KTN Workshop, London
June 2013

Opportunities for International Collaborative Healthcare Science
Invited Address to Delegates, 2013 London Health Forum, Korean Healthcare IDI, London
May 2013

Emerging evidence on brain atrophy as a measure of disease progression and treatment effect
Invited Symposium Lecture, Association of British Neurologists, Glasgow,
May 2013

OPTIMISE: a programme for stratified medicine in MS
Invited Speaker, One Mind for Research Annual Meeting, Johns Hopkins University, Baltimore, Maryland, May 2013

Neurodegeneration and inflammation
Invited Lecture, From Science to Therapeutics: The Best Way Forward: a Gladstone Institute-DZNE Workshop, UCSF, USA
April 2013

Connectivity Studies in Large Populations: Towards Defining Disease Mechanisms & Risk
Invited Lecture, ISMRM Annual Meeting Educational Course, Salt Lake City, USA
April 2013

OPTIMISE: a UK Consortium for Stratified Medicine
Invited Lecture, UK MS Debating Society
March 2013

A national effort for translational neuroscience and imaging, *rare disease medicine development*
Wellcome Trust, London
February 2013

Industry-academic partnerships for rare disease medicine development
Invited Lecture, UCL - Great Ormond Street Hospital Rare Diseases Workshop
February 2013

2012
Functional MRI: overview and potential utility for assessing stem cell therapy in Parkinson's Disease
Invited Lecture, FP7 NeuroStem Initiative Consortium, London
September 2012

fMRI Methods for Multiple Sclerosis
Invited Lecture, European MAGNIMS Consortium, London
June 2012

UK Imaging Science: an overview
Invited Workshop, MRC-Japan Science and Technology Collaborative Workshop, Tokyo
June 2012

PET imaging of microglial activation with PET
National Institute of Neurological Disease, Tokyo
June 2012

Microglial imaging in multiple sclerosis
Distinguished Professorial Lecture Series, Dept. Of Radiology, Case Western Reserve University
May 2012

Recovery after brain injury and the integrity of white matter
Cleveland Clinic Foundation "Myelin Madness" Lecture Series
May 2012

Alzheimer's Disease and the fragmentation of the self
Neuroscience and Literature Symposium, Banbury Centre, Cold Spring Harbor, USA
April 2012

Biomarkers of therapeutic response
American Academy of Neurology Annual Teaching Course, New Orleans, LA USA
April 2012

Shakespeare's neurology
UK Annual MS Debating Society Keynote Lecture
Basingstoke, UK
March 2012

Healthy brain aging
U3A Annual Conference, East Grinstead, UK
March 2012

Imaging brain microglia activated with multiple sclerosis: understanding genetic variation underlying PET radioligand affinity
Department of Radiology, Yale University
Feb 2012

Japan-UK collaborative science in multimodal brain imaging (Chair's opening remarks)
UK-Japan Multimodal Brain Imaging Symposium, Kavli Centre, UK
Feb 2012

2011
Genetics in drug discovery and development
Weatherall Institute of Molecular Medicine Seminar Progroamme, University of Oxford
November, 2011

Imaging the dynamic neuropathology of multiple sclerosis
Seminar Series Lecture, Medical Sciences Division, University of Aberdeen
October 2011

Casting light on the dark side: new opportunities with a changing pharma model
Grand Rounds, Nuffield Dept of Clinical Neurosciences, University of Oxford
October 2011

Functional reorganisation and rehabilitation
Invited Lecture, European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), Amsterdam
October 2011

Achieving effective translation
Invited lecture, Next Generation Brain Imaging Technologies, Wellcome Trust
October 2011

Imaging activated microglia using PET
Brigham and Women's Hospital, Harvard University, Boston USA
September 2011

How the physical sciences created clinical imaging and transformed modern medicine
Physical Sciences Alumni Weekend Plenary Lecture, St Edmund Hall, University of Oxford
September 2011

Extending the phenotype in association studies through imaging genomics
BHF Centre of Excellence Annual Symposium Lecture, Nuffield Department of Medicine, University of Oxford
September, 2011

Lessons from brain plasticity in multiple sclerosis
Invited Lecture, Consortium of MS Centers Annual Meeting, Montreal
June 2011

Co-chair introduction & overview: magnetic resonance spectroscopy- a re-emerging tool for neuroscience.
Morning Symposium, International Society for Human Brain Mapping Annual Meeting, Quebec City
June 2011

Advanced imaging for experimental medicine in oncology: opportunities and challenges
Invited workshop: Exploring Canada-UK-US Synergies for Medical Imaging, Canadian High Commission, London
June 2011

Biomarkers and the design of clinical trials for neuroscience drug development
Masterclass in CNS therapeutics, SMI Group, London
April 2011

Chair's introduction and overview – Gut & Brain Symposium
British Neuroscience Association, Harrogate
April 2011

Staying sharp! The neuroscience of healthy aging
University of the Fourth Age Annual Conference, The Royal Society, London
April 2011

The challenge of imaging neurodegeneration in Parkinson's disease
Oxford Parkinson's Disease Consortium Seminar, Dept of Physiology, Anatomy & Genetics, University of Oxford
March 2011

fMRI and translational medicine: an historical view
Wellcome Trust Training Programme Seminar Series, Dept of Investigative Medicine, Imperial College, London
March 2011

Brain imaging for population-based epidemiology
UK Biobank Launch Meeting, Wellcome Trust, London
March 2011

Industry, academia and the future of experimental medicine
University College, London, Comprehensive Biomedical Research Centre Conference. Mermaid Conference Centre, London
March 2011

Advances in Multiple Sclerosis
Royal College of Physicians Advanced Medicine Course, London
February 2011

Imaging genomics: from molecule to systems
Centre for Neurodegenerative Disease, VA Medical Centre, University of California, San Francisco
February 2011

2010
Imaging biomarkers for neurodegeneration
British Council Invited Lecture, UK-Malaysia Symposium on Neurodegeneration, Monash University, Kuala Lumpur
December 2010

Therapeutics development: changing the paradigm
British Pharmacological Society workshop Invited lecture, QEII Conference Centre, London
December 2010

Biomarkers for neurodegeneration
British Council Invited Lecture and workshop participant, UK-Singapore 'Partners in Science' International Symposium, A* Biopolis & Duke/ National University of Singapore
November 2010

Imaging brain remodelling in multiple sclerosis: current research and future developments
Magnetic Imaging in MS (MAGNIMS) Invited Speaker, Warwick Castle
November 2010

Multimodal neuroimaging: from molecules to systems
Invited Lecture, Dept of Neurology, University of California, San Francisco
November 2010

An introduction to molecular imaging and its use for drug development in neurology
Invited lecture, Autumn Workshop on Molecular & Functional Imaging in Clinical Practice, British Institute of Radiologists, London
October 2010

Brain imaging for understanding the molecular bases of cognition
Killem Lecture, Montreal Neurological Institute, Montreal
October 2010

Pharmacology & fMRI: principles and applications
Teaching workshop lecture: Brain imaging and its applications, EU Framework Training Programme, Great Malvern
July 2010

New drugs for the developing world
UniQ Summer School Lecture and Workshop, University of Oxford
July 2010

Imaging genetics and multimodal approaches
Summer fMRI Course Invited Lecture, Imaging Center, University of California, Los Angeles
July 2010

MRI in MS – How should it be used?
MS Masterclass, Marriott Park Royal Hotel, Bristol
June 2010

Brain Imaging for UK Biobank
UK Biobank Enhancement Meeting, Wellcome Trust, London
May 2010

Multimodal imaging for drug development
Invited Lecture and UK Lead, Japan-UK Science Workshop, British Embassy, Tokyo
January 2010

2009

Translation of new technologies towards the clinic, drug discovery and development in the 21st century
FRAME symposium, The Royal Society, London
November 2009

Imaging for translational neuroscience drug development
Keynote speaker, Medical Imaging Workshop, Canadian Institutes of Health Research, Vancouver
October 2009

Functional and molecular imaging for translational neuroscience
Plenary Lecture, Neuroscience Ireland Annual Meeting, Dublin
September 2009

Imaging for translational medicine
Invited Speaker, Institute for Translational Medicine & Therapeutics 2009 International Symposium 'Global Approaches to Translational Research', University of Pennsylvania
May 2009

MRI in drug development
Invited Sunrise Course, International Society for Magnetic Resonance in Medicine, Stockholm
April 2009

The plastic brain: skill learning and motor recovery after brain injury
Professorial inaugural lecture, Imperial College, London
January 2009

Imaging plasticity in the human brain
Feindel Lecture, Montreal Neurological Institute, Montreal
January 2009

Using MRI to study MS: understanding plasticity
Invited Keystone Symposium speaker, Santa Fe, New Mexico
January 2009

PUBLICATIONS

Over 325 peer-reviewed papers published and in press; co-authored 5 books published or in press (including a 2004 IPPY Award Winner for Best Books of the Year) and over 50 additional chapters, letters and reviews; Google Scholar h-index 106 (76 since 2009); i10 index 293 (245 since 2009).

Peer Reviewed Papers

2015

Matthews PM, Datta G. 2015. Positron-emission tomography molecular imaging of glia and myelin in drug discovery for multiple sclerosis. *Expert Opin Drug Discov.* 5:1-14. [Epub ahead of print]

Sudlow C, Gallacher J, Allen N, Beral V, Burton P, Danesh J, Downey P, Elliott P, Green J, Landray M, Liu B, **Matthews P**, Ong G, Pell J, Silman A, Young A, Sprosen T, Peakman T, Collins R. 2015. UK Biobank: An Open Access Resource for Identifying the Causes of a Wide Range of Complex Diseases of Middle and Old Age. *PLoS Med*. 12(3):e1001779

Comninos AN, Anastasovska J, Sahuri-Arisoylu M, Li X, Li S, Hu M, Jayasena CN, Ghatei MA, Bloom SR, **Matthews PM**, O'Byrne KT, Bell JD, Dhillo WS. 2015. Kisspeptin signaling in the amygdala modulates reproductive hormone secretion. *Brain struct funct*. [Epub ahead of print]

Jacobs HI, Wiese S, van de Ven V, Gronenschild EH, Verhey FR, **Matthews PM**. 2015. Relevance of parahippocampal-locus coeruleus connectivity to memory in early dementia. *Neurobiol aging*. 36(2):618-26

2014

Douaud G, Groves AR, Tamnes CK, Westlye LT, Duff EP, Engvig A, Walhovd KB, James A, Gass A, Monsch AU, **Matthews PM**, Fjell AM, Smith SM, Johansen-Berg H. 2015. A common brain network links development, aging, and vulnerability to disease. *Proc Natl Acad Sci U.S.A*. 111(49):17648-53

Suri S, Mackay CE, Kelly ME, Germuska M, Tunbridge EM, Frisoni GB, **Matthews PM**, Ebmeier KP, Bulte DP, Filippini N. 2014. Reduced cerebrovascular reactivity in young adults carrying the APOE ε4 allele. *Alzheimers Dement.* pii: S1552-5260(14)02467-4

Khamis RY, Woollard KJ, Hyde GD, Boyle JJ, Bicknell C, Hara T, Mauskapf A, Granger DW, Johnson JL, Ntziachristos V, **Matthews PM**, Jaffer FA, Haskard D. 2014. C Development of Whole Body and Intravascular Near-infrared Optical Molecular Imaging of Markers of Plaque Vulnerablity in Atherosclerosis. *Heart*.100 Suppl 3:A128

Colasanti A, Guo Q, Muhlert N, Giannetti P, Onega M, Newbould RD, Ciccarelli O, Rison S, Thomas C, Nicholas R, Muraro PA, Malik O, Owen DR, Piccini P, Gunn RN, Rabiner EA, **Matthews PM**. 2014. In Vivo Assessment of Brain White Matter Inflammation in Multiple Sclerosis with 18F-PBR111 PET. *J Nucl Med.* 55(7):1112-1118

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Linortner P, Jehna M, Johansen-Berg H, **Matthews PM**, Schmidt R, Fazekas F, Enzinger C. 2014. Aging associated changes in the motor control of ankle movements in the brain. *Neurobiol Aging*. [Epub ahead of print]

Matthews PM. 2014. The virtues of adaptability. *Mult Scler*. 20(4):394-6

Newbould RD, Nicholas R, Thomas CL, Quest R, Lee JS, Honeyfield L, Colasanti A, Malik O, Mattoscio M, **Matthews PM**, Sormani MP, Waldman AD, Muraro PA. 2014. Age independently affects myelin integrity as detected by magnetization transfer magnetic resonance imaging in multiple sclerosis. *Neuroimage Clin*. 4:641-8

Matthews PM, Geraghty OC. 2014. Understanding the pharmacology of stroke and multiple sclerosis through imaging. *Curr Opin Pharmacol*. 14C:34-41

Matthews PM, Edison P, Geraghty OC, Johnson MR. 2014. The emerging agenda of stratified medicine in neurology. *Nat Rev Neurol*. 10(1):15-26

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Wu C, Zhu J, Baeslack J, Zaremba A, Hecker J, Kraso J, **Matthews PM**, Miller RH, Wang Y. 2013. Longitudinal Positron Emission Tomography Imaging for Monitoring Myelin Repair in the Spinal Cord. *Ann Neurol*. 74(5):688-98

Zarei M, Beckmann CF, Binnewijzend MAA, Schoonheim MM, Oghabian MA, Sanz-Arigita EJ, Scheltens P, **Matthews PM**, Barkhof F. 2013. Functional segmentation of the hippocampus in the healthy human brain and in Alzheimer's disease. *Neuroimage*. 66C:28-35

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Kandel ER, Markram H, **Matthews PM**, Yuste R, Koch C. 2013. Neuroscience thinks big (and collaboratively), *Nat Rev Neurosci*. 14(9):659-64

Colasanti A, Owen DR, Grozeva D, Rabiner EA, **Matthews PM**, Craddock N, Young AH. 2013. Bipolar Disorder is associated with the rs6971 polymorphism in the gene encoding 18kDa Translocator Protein (TSPO). *Psychoneuroendocrinology*. 38(11):2826-9

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Gourraud PA, Sdika M, Khankhanian P, Henry RG, Beheshtian A, **Matthews PM**, Hauser SL, Oksenberg JR, Pelletier D, Baranzini SE. 2013. A genome-wide asssociation study of brain lesion distribution in multiple sclerosis. *Brain.* 136(4):1012-24

Douaud G, Menke RA, Gass A, Monsch AU, Rao A, Whitcher B, Zamboni G, **Matthews PM**, Sollberger M, Smith S. 2013. Brain microstructure reveals early abnormalities more than two years prior to clinical progression from mild cognitive impairment to Alzheimer's disease. *J Neurosci*. 33(5):2147-55

Inkster B, Strijbis EM, Vounou M, Kappos L, Radue EW, **Matthews PM**, Uitdehaag BM, Barkhof F, Polman CH, Montana G, Geurts JJ. 2013. Histone deacetylase gene variants predict brain volume changes in multiple sclerosis. *Neurobiol Aging*. 34(1):238-47

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Matthews PM, Filippini N, Douaud G. 2013. Brain structural and functional connectivity and the progression of neuropathology in Alzheimer's disease. *J Alzheimers Dis*. 33 Suppl 1:S163-72

Petersen SE, **Matthews PM**, Bamberg F, Bluemke DA, Francis JM, Friedrich MG, Leeson P, Nagel E, Plein S, Rademakers FE, Young AA, Garratt S, Peakman T, Sellors J, Collins R, Neubauer S. 2013. Imaging in population science: cardiovascular magnetic resonance in 100,000 participants of UK Biobank-rationale, challenges and approaches. J Cardiovasc Magn Reson. 15:46

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Newbould RD, Miller SR, Tielbeek JA, Toms LD, Rao AW, Gold GE, Strachan RK, Taylor PC, **Matthews PM**, Brown AP. 2012. Reproducibility of sodium MRI measures of articular cartilage of the knee in osteoarthritis. Osteoarthritis Cartilage. 20(1):29-35

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Zarei M, Beckmann CF, Binnewijzend MA, Schoonheim MM, Oghabian MA, Sanz-Arigita EJ, Scheltens P, **Matthews PM**, Barkhof F. 2012. Functional segmentation of the hippocampus in the healthy human brain and in Alzheimer's disease. *Neuroimage*. 66C:28-35

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Cole DM, Beckmann CF, Searle GE, Plisson C, Tziortzi AC, Nichols TE, Gunn RN, **Matthews PM**, Rabiner EA, Beaver JD. 2012. Orbitofrontal connectivity with resting-state networks is associated with midbrain dopamine D3 receptor availability. *Cereb Cortex*. 22(12):2784-93

Stagg CJ, Bachtiar V, O'Shea J, Allman C, Bosnell RA, Kischka U, **Matthews PM**, Johansen-Berg H. 2012. Cortical activation changes underlying stimulation-induced behavioural gains in chronic stroke. *Brain*. 135(1):276-84

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Newbould RD, Miller SR, Tielbeek JA, Toms LD, Rao AW, Gold GE, Strachan RK, Taylor PC, **Matthews PM**, Brown AP. 2012. Reproducibility of sodium MRI measures of articular cartilage of the knee in osteoarthritis. *Osteoarthritis Cartilage*. 20(1):29-35

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