

## **Current Employment:**

### **Postdoctoral Research Associate in Biomedical Magnetic Resonance Imaging**

Division of Neuroscience & Experimental Psychology

School of Biological Sciences

Faculty of Biology, Medicine and Health

### ***The University of Manchester***

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## **About Me:**

I am a professional research scientist based in an internationally-renowned centre within a world-class University. My research focuses on using novel and advanced biomedical magnetic resonance (MR) scanning and analyses techniques to study how the human body works in health and what changes with ageing, disease and treatment. MR imaging and spectroscopy make it possible to measure structure, function, physiology and metabolism inside living organisms (including human beings) non-invasively and repeatedly, without the dangers of ionising radiation. I write analysis software packages of my own and share these with other researchers, and also use software packages provided by other researchers and third parties. Most of my work has concentrated on the brain. I have also worked on the heart – MR imaging movies of the beating heart are breath-taking!

My favourite techniques are MR diffusion imaging and tractography. I have developed software for analysing HARDI (high angular resolution diffusion imaging) data, which gives a measure of tissue microstructural complexity in the brain (non-invasively and *in vivo*). This analysis method is affectionately called DOC (diffusion orientational complexity). The same method generates PDFs (probability density functions) for probabilistic tractography. I want to develop this method further and apply it outside the brain.

I love being a scientist in this field and having the opportunity to work with some amazing people – scientists and clinicians – locally, nationally and internationally. I am privileged to travel the world to present our cutting-edge work and findings! I have a growing number of well-cited papers published in peer-reviewed scientific journals and contributions to national and international scientific conferences. I am also a co-author on a patent application!

I am very enthusiastic about teaching and sharing my experience and knowledge with students. I am involved in different types of teaching at undergraduate, postgraduate and doctoral levels, and enjoy the fresh energy that students provide!

I believe that public engagement and fulfilling our social responsibilities are vital if we, as scientists, wish society to continue to support and value the science we do.

I have a keen interest in equality and diversity. I involve myself in equality activities wherever I can! I am physically disabled and have been all my life. My personal experiences have made me passionate about disability equality. I have realised that people with hidden impairments face more significant challenges than people with visible disabilities, like me. I am also active in promoting women's equality in science-related disciplines. I am dismayed by the disadvantages that women still face in 21<sup>st</sup> century academia.

I am always looking to develop myself personally and professionally, and aim to build my career at The University of Manchester. I am a family man and a believer.

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## Online Profiles:

- The University of Manchester:
    - <http://www.manchester.ac.uk/research/hamied.haroon/>
    - <http://www.population-health.manchester.ac.uk/staff/147843>
  - ResearchGate: [https://www.researchgate.net/profile/Hamied\\_Haroon](https://www.researchgate.net/profile/Hamied_Haroon)
  - LinkedIn: <https://www.linkedin.com/pub/hamied-ahmad-haroon/56/661/6a7>
  - Google Scholar Citations: <http://scholar.google.co.uk/citations?user=I0qSnw4AAAAJ&hl=en>
  - Twitter: <https://twitter.com/HHHotWheels>
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## Education and Qualifications:

- 2000 – 2005: **The University of Manchester**  
**PhD** – Thesis: “*First Pass Pharmacokinetic Modelling in Dynamic Contrast-Enhanced Magnetic Resonance Imaging: Application in Human Oncology*” Supervisors: Professor Alan Jackson & Professor Stephen R Williams
- 1998 – 2000: **The Victoria University of Manchester**  
**MSc** in Medical Physics – Dissertation: “*Physiological Models for Display Research in Anaesthesia*” Supervisor: Dr Paul CW Beatty  
Modules: Clinical Physics; Radiotherapy; Nuclear Medicine; Medical Imaging; Instrumentation; and Human Biology; with C++ and Physiological Measurement
- 1995 – 1998: **The University of Manchester Institute of Science and Technology (UMIST)**  
**BSc (Hons)** in Physics (2:ii) – Project: “*Theory of Solitons*”  
3<sup>rd</sup> Year Modules: Medical Physics; Quantum Mechanics; Relativity; Particle Physics; Plasma Physics; Statistical Physics; Laser Physics & Applications; Approximate Methods & Problem Solving; and Project & Financial Management  
1<sup>st</sup> & 2<sup>nd</sup> Year Modules: Electromagnetism; Classical Mechanics; Kinetic Theory; Entropy; Fluid Dynamics; Solid State Physics; Cosmology & Astronomy; Mathematical Techniques; Optics & Fourier Methods; Computation; Computer Aided Drawing; Electronics; Laboratory Experimentation; and Management
- Summer 1995: **Shena Simon Sixth Form College, Manchester**  
**GCE A-Levels** – Mathematics with Mechanics (A), Physics (B), Biology (B)
- Summer 1993: **Abraham Moss High School, Manchester**  
**GCSEs** – English: Literature/Language/Oral Communication (A/A/1), Mathematics (A), Information Technology (A), Social Science (A), Sciences: Dual Award (A/A), CDT: Design & Communication (B)
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## Professional Memberships:

- Since 2001: **International Society for Magnetic Resonance in Medicine (ISMRM)** – ID # **45670**  
Full Member 2009-, Student Member 2001-2008,  
including Diffusion Study Group and British Chapter
- Since 1998: **The Institute of Physics (IOP)** – ID # **573401**  
Member (**MInstP**) 2010-, Associate Member 1998-2010,  
including Medical Physics Group
- 1999-2013: **Institute of Physics and Engineering in Medicine (IPEM)** – ID # **8851**  
Student Member 1999-2013
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## Employment History:

- Mar 2015  
– present: **The University of Manchester**  
**Postdoctoral Research Associate** in Magnetic Resonance Imaging and Analyses, on an EPSRC Sensing & Imaging for Diagnosis of Dementias Grant (EP/M005909/1) – *“Quantification of vascular and neuronal pathology in dementia using PET and MRI”*: The increasing occurrence of dementia within our ageing population is one of the pressing challenges facing society. Successful management of patients with dementia is significantly aided by early and accurate diagnosis. Imaging methods such as magnetic resonance imaging (MRI) and positron emission tomography (PET) are already used in the diagnostic process; we believe that there is substantial scope for both methods to be improved to provide more precise and sensitive diagnostic information, and to do so in a way that is easily tolerated by patients. If we are correct in this belief, then the methods we develop within this project will not only help in early diagnosis, but may also help in the discovery of new therapies and in the longer term with helping doctors select the best therapeutic strategies for patients with different forms of dementia. Imaging methods such as MRI and PET can tell us a lot more about brains than simply providing a picture of brain shape and size. We will focus on improving MRI and PET to be sensitive to two important microscopic aspects of dementia. Firstly, we will develop and validate new methods for measuring the loss of brain cells due to the condition; this loss is the cause of many of the symptoms of dementia, such as memory problems, and we hope to be able to detect these changes earlier than has previously been possible. Secondly we will develop and validate new methods for measuring changes in blood delivery to the brain and how this can affect oxygen delivery. These changes are thought to be part of one of the important processes involved in causing cell death and tissue loss, and are likely to be particularly relevant to vascular dementia. We will also spend considerable time checking that the measurements we develop are both accurate and practical for application in dementia patients in the future. We will optimise the way in which the scanning processes take place so that the time required for patients to lie in the scanner(s) is minimised. This will be important for future adoption of these methods in the clinical environment.  
Supervisors: Dr Laura M Parkes, Prof Geoff JM Parker, Centre for Imaging Sciences
- Oct 2013  
– Feb 2015: **The University of Manchester**  
**Postdoctoral Research Associate** in Magnetic Resonance Imaging for Image Analyses, on NIHR and NHS QIDIS funding: This involves three research studies: (1) Acquisition and analyses of multi-parametric magnetic resonance data to study brain structure, function, perfusion and metabolism for SimvAstatin in Neurofibromatosis Type 1 Autism (SANTA) drug trial in young children. MR data includes high-resolution T1-weighted volume, diffusion tensor imaging, arterial spin labelling, and single-voxel spectroscopy. (2) Longitudinal volumetric measurements of acoustic schwannomas in Neurofibromatosis Type 2 in adults and children who are receiving anti-cancer therapy and being scanned at multiple centres across the UK and Europe. (3) Acquisition and analyses of multi-parametric magnetic resonance data to study brain structure, perfusion and metabolism in corticosteroid-induced behavioural change in childhood steroid sensitive nephrotic syndrome (IMP)  
Supervisors: Dr Stavros Stivaros, Prof Alan Jackson, Centre for Imaging Sciences
- Sep 2010  
– Sep 2013: **The University of Manchester**  
**Postdoctoral Research Associate** in Magnetic Resonance Imaging for Image Reconstruction, Compressed Sensing and Biomarker Measurement, on a Wellcome Trust Technology Development Grant (091369/Z/10/Z) – *“Biomedical Sparse Parametric Imaging”*: Tomographic imaging techniques such as magnetic resonance imaging have revolutionised medicine by allowing us to visualise the 3-D structure of the human body. Visualisation is itself immensely useful, but it is now apparent that measurements derived from these imaging techniques—e.g., biomarkers like ventricular volume or blood flow—can be used to make clinical decisions according to established criteria, and to develop and test scientific hypotheses. However, quantification is rare outside research centres because of the specialist knowledge and software needed. Bringing quantification to the many scanners already deployed would constitute a significant advance. We aim to develop a generic method of making morphological and functional measurements from tomographic measurements. We will develop this method in two clinical exemplars: heart disease (we aim to measure biomarkers such as ventricular volume and ejection fraction) and cancer (we aim to measure biomarkers such as microvascular permeability). The key goals of the project are to further develop the theoretical framework underpinning the project, develop and apply the method in the clinical exemplars, and compare measurements made using the method with conventional measurements (e.g., cardiac MRI- and ultrasound-based measurements of ejection fraction).  
Supervisors: Prof Geoff JM Parker, Dr Chris J Rose, Prof Tim F Cootes and Prof Chris J Taylor OBE, Imaging Science & Biomedical Engineering

- Sep 2009 ***The University of Manchester***  
 – Aug 2010: **Postdoctoral Research Associate** in Magnetic Resonance Neuroimaging for Processing and Analysis of MR Diffusion Imaging and Tractography  
 Supervisor: Prof Geoff JM Parker, Imaging Science & Biomedical Engineering
- Sep 2006 ***The University of Manchester***  
 – Aug 2009: **Co-Applicant, Researcher-Co-Investigator and Postdoctoral Research Associate** in Magnetic Resonance Neuroimaging for Processing and Analysis of MR Diffusion Imaging and Tractography, on a BBSRC Grant (BB/E002226/1) – *“Temporal Lobe Anatomical Connectivity”*: The aim of this study is to establish the degree of cross-species homology in white matter connections within and to/from the temporal lobes. We will use diffusion weighted MRI (DWI) to provide non-invasive probabilistic anatomical connectivity information in the human brain and compare this with connectivity information derived from animal models. High resolution postmortem DWI data will allow ‘gold standard’ comparison with literature and electronic database information regarding anatomical connectivity. This will be compared with DWI data acquired in vivo in a population of healthy brains to define the degree of population variability in temporal lobe connectivity and the experimental limits of in vivo DWI tractography. Cross-species homology will be investigated via a series of exemplar experiments. A significant additional end point will be the creation of an online database of temporal lobe anatomical connectivity, which will be made available to researchers, forming a unique and valuable resource for the neuroscience community.  
 Supervisors: Prof Geoff JM Parker and Prof Matt A Lambon Ralph, Imaging Science & Biomedical Engineering; Collaborators: Prof Nikos K Logothetis and Dr Tim B Dyrby
- May 2004 ***The University of Manchester***  
 – Aug 2006: **Postdoctoral Research Associate** in Magnetic Resonance Neuroimaging for Processing and Analysis of MR Diffusion Imaging and Tractography, on an MRC Pathfinder Award (G0300952) – *“Understanding the neural basis of semantic impairment in temporal-variant frontotemporal dementia (semantic dementia): Insights from white-matter tractography and functional MRI”*: Semantic memory refers to our knowledge of objects, people, places, facts and the meaning of words. The temporal lobe variant of frontotemporal dementia (tvFTD), or semantic dementia, is characterised by a selective loss of semantic memory with a sparing of other cognitive systems. In previous neuropsychological investigations and computational models we have demonstrated that this semantic impairment reflects damage to a single, amodal semantic system arising from the heteromodal association cortex of the temporal lobes. The success of this model emanates from the combination of neuroanatomical and behavioural information. Future developments require a much improved understanding of how areas of temporal neocortex are interconnected and linked with unimodal association cortices. With this background, the purpose of this Pathfinder Project is to exploit advanced neuroimaging techniques to reveal human temporal lobe structural connectivity in vivo using tractography (fibre tracking using diffusion-MRI) as well as the functional activation of this region using fMRI. We will develop probabilistic multi-fibre tractography such that it can be applied to the temporal poles and use cortical (grey matter) regions to initialise fibre tracking, including those areas identified through fMRI. Until recently conventional gradient echo BOLD fMRI has been unsuccessful in providing information about the contribution of the temporal poles due to significant image distortion. Our pilot studies using alternative fMRI and diffusion MRI methods suggest that this problem could be overcome. These techniques will be applied in cohorts of semantic dementia patients and controls to provide important insights concerning the neural basis of semantic dementia.  
 Supervisors: Prof Matt A Lambon Ralph, Dr Geoff JM Parker and Prof Risto A Kauppinen, Imaging Science & Biomedical Engineering
- Oct 2002: ***Beth Israel Deaconess Medical Centre* and *Harvard Medical School***, Boston, MA, USA  
 I was offered a position as a Postdoctoral Research Fellow in 3T Vascular Imaging with Dr Robert Greenman and Prof Robert Lenkinski, in the Center for Advanced MR Imaging. Unfortunately, changes in circumstances at BIDMC meant that I was unable to take up this offer at the time
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## Journal Publications:

- Stivaros SM, Garg S, Tziraki M, Cai Y, Thomas O, Mellor J, Morris AA, Jim C, Szumanska-Ryt K, Parkes, **Haroon HA**, Montaldi D, Webb N, Keane J, Francisco C, Silva AJ, Huson SM, Williams S, Evans DG, Emsley R, Green J, “Randomised controlled trial of simvastatin treatment for autism in young children with neurofibromatosis type 1 (SANTA)” *Biological Psychiatry*, 2017; **submitted**
- Bajada CJ, Jackson RL, **Haroon HA**, Azadbakht H, Parker GJM, Lambon Ralph MA, Cloutman LL, “A graded tractographic parcellation of the temporal lobe” *NeuroImage*, 2017; **in press**
- Little RA\*, **Haroon HA\***, Babalola KO, Miller CA, Cootes TF, Taylor CJ, Parker GJM, Rose CJ, “Direct estimation of morphological characteristics of biological structures from highly undersampled k-space measurements” *Magnetic Resonance in Medicine*, **under review** [\* equal first authors]
- Bajada CJ, **Haroon HA**, Azadbakht H, Parker GJM, Lambon Ralph MA, Cloutman LL, “The tract terminations in the temporal lobe: Their location and associated functions” *Cortex*, 2016; **in press**
- Azadbakht H, Parkes LM, **Haroon HA**, Augarth M, Logothetis NK, de Crespigny A, D’Arceuil HE, Parker GJM, “Validation of high resolution tractography against in vivo tracing in the macaque visual cortex” *Cerebral Cortex*, 2015; **25** (11):4299-4309
- Muhlert N, Sethi V, Cipolotti L, **Haroon HA**, Parker GJM, Yousry T, Wheeler-Kingshott CAM, Miller DH, Ron MA, Chard DT, “The grey matter correlates of impaired decision-making in multiple sclerosis” *Journal of Neurology, Neurosurgery and Psychiatry*, 2015; **86** (5):530-536
- Smallman RP, Barkus E, Azadbakht H, Embleton KV, **Haroon HA**, Lewis SW, Morris DM, Parker GJM, Rushe TM, “MRI diffusion tractography study in individuals with schizotypal features: A pilot study” *Psychiatry Research: Neuroimaging*, 2014; **221** (1):49-57
- Muhlert N, Sethi V, Schneider T, Daga P, Cipolotti L, **Haroon HA**, Parker GJM, Ourselin S, Wheeler-Kingshott CAM, Miller DH, Ron MA, Chard DT, “Diffusion MRI-based cortical complexity alterations associated with executive function in multiple sclerosis” *Journal of Magnetic Resonance Imaging*, 2013; **38** (1):54-63
- Iturria-Medina Y, Pérez Fernández A, Morris DM, Canales-Rodríguez EJ, **Haroon HA**, García Pentón L, Augath M, Galán García L, Logothetis N, Parker GJM, Melie-García L, “Brain Hemispheric Structural Efficiency and Interconnectivity Rightward Asymmetry in Human and Nonhuman Primates” *Cerebral Cortex*, 2011; **21** (1): 56-67
- Embleton KV, **Haroon HA**, Morris DM, Lambon Ralph MA, Parker GJM, “Distortion Correction for Diffusion-Weighted MRI Tractography and fMRI in the Temporal Lobes” *Human Brain Mapping*, 2010; **31** (10): 1570-1587
- **Haroon HA**, Morris DM, Embleton KV, Alexander DC, Parker GJM, “Using the Model-Based Residual Bootstrap to Quantify Uncertainty in Fiber Orientation from Q-Ball Analysis” *IEEE Transactions on Medical Imaging*, 2009; **28** (4): 535-550
- **Haroon HA**, Patankar TF, Zhu XP, Li KL, Thacker NA, Scott MJ, Jackson A, “Comparison of Cerebral Blood Volume Maps generated from  $T_2^*$  and  $T_1$  weighted MRI data in Intra-Axial Cerebral Tumours” *The British Journal of Radiology*, 2007; **80** (951): 161-168
- Mills SJ, Patankar TA, **Haroon HA**, Balériaux D, Swindell R, Jackson A, “Do Cerebral Blood Volume and Contrast Transfer Coefficient predict prognosis in Human Glioma?” *American Journal of Neuroradiology*, 2006; **27** (4): 853-858
- Patankar TF, **Haroon HA**, Mills SJ, Balériaux D, Buckley DL, Parker GJM, A. Jackson, “Is Volume Transfer Coefficient ( $K^{trans}$ ) Related to Histological Grade in Human Gliomas?” *American Journal of Neuroradiology*, 2005; **26** (10): 2455-2465
- Harrer JU, Parker GJM, **Haroon HA**, Buckley DL, Embleton K, Roberts C, Balériaux D, Jackson A, “Comparative Study of Methods for Determining Vascular Permeability and Blood Volume in Human Gliomas” *Journal of Magnetic Resonance Imaging*, 2004; **20** (5): 748-757
- **Haroon HA**, Buckley DL, Patankar TA, Dow GR, Rutherford SA, Balériaux D, Jackson A, “A Comparison of  $K^{trans}$  Measurements obtained with Conventional and First Pass Pharmacokinetic Models in Human Gliomas” *Journal of Magnetic Resonance Imaging*, 2004; **19** (5): 527-536

- Parker GJM, **Haroon HA**, Wheeler-Kingshott CAM, “A Framework for a Streamline-Based Probabilistic Index of Connectivity (PICO) using a Structural Interpretation of MRI Diffusion Measurements” *Journal of Magnetic Resonance Imaging*, 2003; **18** (2): 242-254
- Jayson GC, Zweit J, Jackson A, Mulatero C, Julyan P, Ranson M, Broughton L, Wagstaff J, Hakansson L, Groenewegen G, Bailey J, Smith N, Hastings D, Lawrance J, **Haroon H**, Ward T, McGown AT, Tang T, Levitt D, Marreaud S, Lehmann FF, Herold M, Zwierzina H, (for the EORTC Biological Therapeutic Development Group) “Molecular Imaging and Biological Evaluation of HuMV833 anti-VEGF antibody: Implications for Trial Design of Antiangiogenic Antibodies” *Journal of the National Cancer Institute*, 2002; **94** (19): 1484-1493
- Jackson A, **Haroon H**, Zhu XP, Li KL, Thacker NA, Jayson G, “Breath-Hold Perfusion and Permeability Mapping of Hepatic Malignancies Using Magnetic Resonance Imaging and a First-Pass Leakage Profile Model” *NMR in Biomedicine*, 2002; **15** (2): 164-173

### Patents:

2008:

- Embleton KV, Parker GJM, **Haroon HA**, The University of Manchester, “Image Processing Method: A method for generating data indicating a degree of anatomical connectivity for each of a plurality of image elements, each image element representing a part of a body to be imaged. The method comprises for each of a plurality of image elements, generating a data set indicating connections between that image element and others of said plurality of image elements; for each of said plurality of image elements, generating data indicating a degree of connectivity of that image element, said degree of connectivity being based upon said plurality of generated data sets” Patent Application Numbers: PCT/GB2008/001533, CA 2686150, EP20080750503, US 12/598,585; Filing Date: 1<sup>st</sup> May 2008; Application Publication Numbers: WO2008135738 A1 (13<sup>th</sup> Nov 2008), CA2686150 A1 (13<sup>th</sup> Nov 2008), EP2147330 A1 (27<sup>th</sup> Jan 2010), US20100135560 A1 (3<sup>rd</sup> Jun 2010)

### Conference Proceedings:

2017:

- Tziraki M, Garg S, Mellor J, **Haroon H**, Parkes L, Williams S, Keane J, Green J, Stivaros SM, “Multimodal Non-Sedated MRI during an RCT of Simvastatin in Neurofibromatosis Type 1 (NF1)-Syndromic Autism” Proceedings of the **International Meeting For Autism Research (IMFAR)**, San Francisco, California, USA, May 2017; poster number 51/141.051 (**POSTER**)

2016:

- Cox D, **Haroon HA**, Parkes LM, Montaldi D, “Hippocampal subfield diffusivity changes and recollection memory in healthy ageing” Proceedings of the Mid-Year Meeting of the **International Neuropsychological Society**, London, UK, July 2016 (**POSTER**)
- Bajada C, Jackson R, **Haroon H**, Azadbakht H, Parker G, Lambon Ralph M, Cloutman L, “A graded parcellation of the temporal lobe” Proceedings of the 22<sup>nd</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Geneva, Switzerland, June 2016; poster number 4246 WTh (**POSTER**)
- Stivaros S, Tziraki M, Garg S, **Haroon H**, Kapasi A, Williams S, Green J, “In vivo assessment of phase one pharmacological intervention using GABA spectroscopy in awake children with single gene (NF1) autism” Proceedings of the 54<sup>th</sup> Annual Meeting of the **American Society of Neuroradiology**, Washington, DC, USA, May 2016; abstract # O-388 (**ORAL**)
- Cox DJ, **Haroon HA**, Montaldi D, Parkes LM, “Hippocampal subfield diffusivity changes in healthy ageing” Proceedings of the 24<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Singapore, May 2016; p 55 (**ORAL**)
- McHugh DJ, Riemer F, **Haroon HA**, Parker GJM, Gallagher FA, “Standardisation and quantification of 23Na-MRI: repeatability and reproducibility of sodium imaging across two independent sites”

Proceedings of the 24<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Singapore, May 2016; p 3978 (E-POSTER)

- Loughnan RJ, McHugh D, **Haroon HA**, Garratt D, Vidyasagar R, Azadbakht H, Cristinacce PH, Parker GJM, Parkes LM, “*Determination of Microvascular Parameters from Diffusion-Weighted Images*” Proceedings of the 24<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Singapore, May 2016; p 2019 (POSTER)

2015:

- Bajada CJ, Lambon Ralph MA, Parker GJM, **Haroon HA**, Azadbakht H, Cloutman LL, “*The Tract Terminations in the Language Network of the Temporal Lobe*” Proceedings of the 7<sup>th</sup> Annual Meeting of the **Society for the Neurobiology of Language**, Chicago, Illinois, USA, October 2015; poster # C15 (POSTER)
- Bajada CJ, Lambon Ralph MA, Parker GJM, **Haroon HA**, Azadbakht H, Cloutman LL, “*ParceNIP: Parcellating neural images using PICO, a graded approach*” Proceedings of the 45<sup>th</sup> Annual Meeting of the **Society for Neuroscience: Neuroscience 2015**, Chicago, Illinois, USA, October 2015; program # 542.17, poster # CC76 (POSTER)
- Siamptani C, **Haroon HA**, Beaumont H, Embleton KV, Zahn R, Parker GJM, Parkes LM, “*Investigating microstructural changes in fronto-temporal dementia using diffusion MRI*” Proceedings of the 21<sup>st</sup> Annual Scientific Meeting of the **British Chapter of the International Society for Magnetic Resonance in Medicine**, London, UK, September 2015; oral # O25 (ORAL)
- Cox DJ, **Haroon HA**, Parker GJM, Montaldi D, Parkes L, “*Quantification of age-related hippocampal microstructure changes and recollection memory decline*” Proceedings of the 21<sup>st</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Honolulu, Hawai’i, USA, June 2015; poster number 1748 (POSTER)
- Bajada CJ, Lambon Ralph MA, Parker GJM, **Haroon HA**, Azadbakht H, Cloutman LL, “*ExTracT: extracting tract terminations using diffusion imaging*” Proceedings of the 23<sup>rd</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2015; p 3484 (E-POSTER)
- **Haroon HA**, Bajada CJ, Azadbakht H, Zhao S, “*Improving cortical tractography using double inversion recovery*” Proceedings of the 23<sup>rd</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2015; p 2997 (E-POSTER)

2014:

- **Haroon HA**, Little R, Babalola K, Miller C, Sherratt N, Whitnall B, Cootes T, Taylor C, Parker GJ, Rose C, “*Measurement of morphological biomarkers using highly under-sampled k-space data without image reconstruction: application in left-ventricular end-diastolic volume assessment*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Milan, Italy, May 2014; p 4315 (E-POSTER)

2013:

- Muhlert N, Sethi V, Ron M, Cipolotti L, Parker G, **Haroon HA**, Yousry T, Wheeler-Kingshott CA, Miller DH, Chard DT, “*Impaired decision-making and diffusion orientational complexity in people with multiple sclerosis*” Proceedings of the 26<sup>th</sup> Annual General Meeting of the **British Neuropsychiatry Association**, London, UK, February 2013; members’ poster # 3 (POSTER)

2012:

- Muhlert N, Sethi V, Ron M, Cipolotti L, Parker G, **Haroon H**, Yousry TA, Wheeler-Kingshott CA, Miller DH, Chad DT, “*Impaired decision-making in MS and grey matter diffusion orientational complexity*” Proceedings of the 28<sup>th</sup> Congress of the **European Committee for Treatment and Research in Multiple Sclerosis**, Lyon, France, October 2012; 46 (ORAL) [Mult Scler **18** (Suppl 4): 11]
- Cox DJ, **Haroon H**, Parker GJM, Montaldi D, Parkes LM, “*Evidence of an associated decline in age related hippocampal microstructure and recollection memory*” Proceedings of the 18<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Beijing, China, June 2012; poster number 921 WTh (POSTER)

- Azadbakht H, Parkes LM, **Haroon HA**, Augarth M, Logothetis NK, de Crespigny A, D'Arceuil HE, Parker GJM, "Validation of tractography against in vivo tracing in the macaque visual system – effect of distance correction" Proceedings of the 20<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Melbourne, Victoria, Australia, May 2012; p 1104 (POSTER)

2011:

- Muhlert N, Sethi V, Samson R, Ron M, Cipolotti L, Parker G, **Haroon HA**, Wheeler-Kingshott CA, Miller DH, Chad DT, "A new diffusion-based measure of cortical complexity is correlated with cognitive dysfunction in MS" Proceedings of the 5<sup>th</sup> Joint Triennial Congress of the **European and Americas Committees for Treatment and Research in Multiple Sclerosis**, Amsterdam, The Netherlands, October 2011; P1115 (POSTER) [Mult Scler **17** (Suppl 10): S515]
- **Haroon HA**, Reynolds H, Carter SF, Embleton KV, Herholz KG, Parker GJ, "HARDI-Based Microstructural Complexity Mapping Reveals Distinct Subcortical and Cortical Grey Matter Changes in Mild Cognitive Impairment and Alzheimer's Disease" Proceedings of the 19<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Montréal, Québec, Canada, May 2011; p 682 – selected by Philips Healthcare for displaying in their booth at ISMRM 2011 (ORAL)
- Azadbakht H, Morris DM, **Haroon HA**, Witcher B, Snowden J, Parker GJ, "Longitudinal Tract Atrophy in Normal Aging and Alzheimer's Disease Measured Using Probabilistic Tractography" Proceedings of the 19<sup>th</sup> Annual Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Montréal, Québec, Canada, May 2011; p 2351 (POSTER)
- Mistry S, Michou E, Singh S, Jefferson S, Downey D, Embleton KV, **Haroon HA**, Morris D, Parker GJ, Williams S, Hamdy S, "Dissecting the neuroanatomy of human swallowing related behaviours non-invasively using diffusion weighted magnetic resonance imaging" Proceedings of the annual **Digestive Disease Week** of the American Gastroenterological Association, Chicago, Illinois, USA, May 2011; programme # Sa1993 (POSTER) [Gastroenterology **140** (5) (Suppl 1): S-363]
- Mistry S, Michou E, Singh S, Jefferson S, Downey D, Embleton K, **Haroon H**, Morris D, Parker G, Williams S, Hamdy S, "Using diffusion-weighted MR imaging to dissect the neuroanatomy of human swallowing related behaviours" Proceedings of the Annual Meeting of the **British Society of Gastroenterology**, Birmingham, UK, March 2011; programme # OC-078 (ORAL) [Gut **60** (Suppl 1): A39-A40]
- Mistry S, Michou E, Singh S, Jefferson S, Downey D, Embleton K, **Haroon H**, Morris D, Parker G, Williams S, Hamdy S, "Non-invasive dissection of the neuroanatomy of human swallowing behaviours using diffusion weighted MR imaging" Proceedings of the 19<sup>th</sup> Annual Meeting of the **Dysphagia Research Society**, San Antonio, Texas, USA, March 2011 – plenary (ORAL)

2010:

- **Haroon HA**, Binney RJ, Parker GJ, "Probabilistic Quantification of Microstructural Complexity in Cortical and Subcortical Regions" Proceedings of the 16<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Barcelona, Spain, June 2010; poster number 829 WTh-AM – available online as an e-poster (POSTER)
- Azadbakht H, Morris D, **Haroon HA**, Embleton K, Carter S, Witcher B, Snowden J, Parker G, "Tract Atrophy in Alzheimer's Disease Measured Using Probabilistic Tractography" Proceedings of the 16<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Barcelona, Spain, June 2010; poster number 1335 MT-AM (POSTER)
- Rose C, Morris D, **Haroon HA**, Embleton K, Logothetis N, Lambon Ralph M, Parker G, "Piconmat.com: A Web-based Probabilistic Tractography Resource" Proceedings of the 16<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Barcelona, Spain, June 2010; poster number 1338 MT-PM (POSTER)
- Mistry S, Michou E, Singh S, Jefferson S, Embleton K, **Haroon HA**, Morris D, Parker G, Williams S, Hamdy S, "Asymmetry in the cerebral control of human swallowing: preliminary evidence using DWI Tractography" Proceedings of the 16<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Barcelona, Spain, June 2010; poster number 1356 MT-PM (POSTER)



- **Haroon HA**, Binney RJ, Parker GJ, “*Probabilistic quantification of regional cortical microstructural complexity*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Stockholm, Sweden, May 2010; p 578 (ORAL)
- Azadbakht H, **Haroon HA**, Morris DM, Embleton KV, Carter SF, Whitcher B, Snowden J, Parker GJ, “*Tract Atrophy In Alzheimer’s Disease Measured Using Probabilistic Tractography*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Stockholm, Sweden, May 2010; p 21 (ORAL)
- Parkes LM, **Haroon HA**, Augath M, Logothetis NK, Parker GJ, “*High resolution tractography in macaque visual system – validation against in vivo tracing*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Stockholm, Sweden, May 2010; p 118 (ORAL)
- Rose CJ, Morris D, **Haroon H**, Embleton K, Logothetis N, Lambon Ralph M, Parker GJ, “*Piconmat.com version 2.0: A Web-based Probabilistic Tractography Data Service*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Stockholm, Sweden, May 2010; p 1666 (POSTER)
- Mistry S, Michou E, Singh S, Jefferson S, Embleton KV, **Haroon HA**, Morris D, Parker GJ, Williams S, Hamdy S, “*Neuroanatomical evidence for asymmetry in the human cerebral swallowing network: preliminary observations with DWI tractography*” Proceedings of the annual **Digestive Disease Week** of the American Gastroenterological Association, New Orleans, Los Angeles, USA, May 2010; programme # M1295 (POSTER) [Gastroenterology **138** (5) (Suppl 1): S-374]
- Mistry S, Michou E, Singh S, Jefferson S, Embleton K, **Haroon H**, Morris D, Parker G, Williams S, Hamdy S, “*Preliminary evidence of neuroanatomical asymmetry in the human cerebral swallowing network: a diffusion weighted imaging tractography study*” Proceedings of the Annual Meeting of the **British Society of Gastroenterology**, Liverpool, UK, March 2010; programme # PTH-041 (POSTER) [Gut **59** (Suppl 1): A139]

2009:

- Azadbakht H, Morris DM, **Haroon HA**, Embleton KV, Whitcher BJ, Snowden J, Parker GJM, “*Probabilistic tractography driven white matter width measurement*” Proceedings of the 15<sup>th</sup> Annual Meeting of the **British Chapter of the International Society for Magnetic Resonance in Medicine**, Cardiff, UK, September 2009; oral # O19 (ORAL)
- Morris DM, Embleton KV, **Haroon HA**, Parker GJM, “*How well does probabilistic tractography sample distributed connections?*” Proceedings of the 15<sup>th</sup> Annual Meeting of the **British Chapter of the International Society for Magnetic Resonance in Medicine**, Cardiff, UK, September 2009; poster # 30 (POSTER)
- Azadbakht H, Morris DM, **Haroon HA**, Embleton KV, Whitcher BJ, Snowden J, Parker GJ, “*Probabilistic Tractography Driven White Matter Width Measurement*” Proceedings of the 15<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, San Francisco, California, USA, June 2009; poster number 493 SA-AM (POSTER) [NeuroImage **47** (Suppl 1): S104]
- **Haroon HA**, Morris DM, Embleton KV, Parker GJ, “*Model-Based Residual Bootstrap of Constrained Spherical Deconvolution for Probabilistic Segmentation and Tractography*” Proceedings of the 17<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, April 2009; p 363 (ORAL)
- Embleton KV, Parker GJ, Morris DM, **Haroon HA**, Lambon Ralph MA, “*Semantic and Phonological Processing in the Left Inferior Frontal Gyrus: Observations from a Combined Distortion Corrected fMRI and Tractography Study*” Proceedings of the 17<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, April 2009; p 857 (ORAL)

- Rose CJ, Ellard D, Morris D, **Haroon H**, Embleton K, Logothetis NK, Lambon Ralph MA, Parker GJ, “*A Web-Based Probabilistic Tractography Database*” Proceedings of the 17<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, April 2009; p 3552 (E-POSTER)
- Azadbakht H, Morris DM, **Haroon HA**, Embleton KV, Whitcher BJ, Snowden J, Parker GJ, “*Probabilistic Tractography Driven White Matter Width Measurement*” Proceedings of the 17<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, April 2009; p 3553 (E-POSTER)

2008:

- **Haroon HA**, Morris DM, Kaiser A, Augath M, Logothetis NK, Parker GJ, “*Comparing Corticocortical Interconnection Information from Tracer Studies and Probabilistic Tractography in the Postmortem Macaque Brain*” Proceedings of the 16<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2008; p 3369 (E-POSTER)
- **Haroon HA**, Embleton KV, Parker GJ, “*Fibre Orientation Probability Maps from Q-Ball and the Model-Based Bootstrap – A Potential Segmentation Tool*” Proceedings of the 16<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2008; p 3320 (E-POSTER)
- Welbourne S, Embleton K, **Haroon H**, Morris D, Parker GJ, Lambon Ralph MA, “*Combining tractography and coherence measures to identify connectivity within a neural network for reading*” Proceedings of the 16<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2008; p 428 (ORAL)
- Meara SJP, Morris DM, Embleton KV, **Haroon HA**, Parker GJM, “*Application Of A Double Inversion-Recovery Sequence To Diffusion Tractography*” Proceedings of the 16<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Toronto, Ontario, Canada, May 2008; p 1841 (POSTER)

2007:

- **Haroon HA**, Morris DM, Embleton KV, Alexander DC, Parker GJM, “*Model-Based Bootstrapping Using Q-Ball – Probabilistic Tissue Segmentation and Tractography*” Book of Abstracts of a **Science Networking Development Scheme Bi-National Workshop** on: ‘*MRI of Brain Connectivity and Microstructure: Measurement and Validation*’, Ein-Boqeq, The Dead Sea, Israel, November 2007; invited paper I-7 (ORAL)
- **Haroon HA**, Parker GJ, “*Using Variants of the Wild Bootstrap to Quantify Uncertainty in Fibre Orientations from Q-Ball Analysis*” Proceedings of the 13<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Chicago, Illinois, USA, June 2007; poster number 273 W-AM (POSTER)
- **Haroon HA**, Parker GJ, “*Using the Wild Bootstrap to Quantify Uncertainty in Fibre Orientations from Q-Ball Analysis*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Berlin, Germany, May 2007; p 903 (ORAL)
- Embleton KV, Morris DM, **Haroon HA**, Lambon Ralph MA, Parker GJ, “*Combining fMRI and Probabilistic Tractography in the Temporal Lobe*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Berlin, Germany, May 2007; p 232 (ORAL)
- Embleton KV, Morris DM, **Haroon HA**, Lambon Ralph MA, Parker GJ, “*Anatomical Connectivity Mapping*” Proceedings of the Joint Annual Meeting of the **International Society for Magnetic Resonance in Medicine** and the **European Society for Magnetic Resonance in Medicine and Biology**, Berlin, Germany, May 2007; p 1548 (POSTER)

2006:

- **Haroon HA**, Lambon Ralph MA, Watson Y, Ciccarelli O, Wheeler-Kingshott CA, Alexander DC, Luzzi S, Parker GJ, “*Auditory-Language Networks involving the Superior Temporal Gyrus: Patterns of Connection and Lateralization*” Proceedings of the 12<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Florence, Italy, June 2006; poster number 477 T-AM (POSTER)

- Embleton KV, **Haroon HA**, Lambon Ralph MA, Parker GJM, “A Combined Distortion Corrected Diffusion Weighted Tractography and fMRI Protocol Suitable for Use in Frontotemporal Studies” Proceedings of the 12<sup>th</sup> Annual Meeting of the **Organization for Human Brain Mapping**, Florence, Italy, June 2006; poster number 219 TH-AM (**POSTER**)
- **Haroon HA**, Lambon Ralph MA, Watson Y, Ciccarelli O, Wheeler-Kingshott CA, Alexander DC, Luzzi S, Parker GJ, “Auditory-Language Networks involving the Superior Temporal Gyrus: Patterns of Connection and Lateralization” Proceedings of the 14<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Seattle, Washington, USA, May 2006; p 769 (**ORAL**)
- Parker GJM, **Haroon HA**, Morris DM, Lambon Ralph MA, Embleton KV, “Integration of fMRI and Probabilistic Tractography for Cerebral Network Analysis” Proceedings of the 3<sup>rd</sup> **IEEE International Symposium on Biomedical Imaging: From Nano to Macro**, Arlington, Virginia, USA, April 2006; paper # 1714 – invited talk for the special session on ‘Progress on the Diffusion Tractography Problem’ organised by Dr David Tuch (**ORAL**)

2005:

- Hoggard N, Patankar T, **Haroon H**, Al-Rammah T, Jackson A, “Comparison of CT and MR perfusion imaging of cerebral tumours?” Proceedings of the 39<sup>th</sup> Annual Meeting of the **British Society of Neuroradiologists**, Edinburgh, UK, October 2005; session 2, talk # 1 (**ORAL**)
- Jackson A, Patankar T, **Haroon H**, Balériaux D, Mills S, “Do Cerebral Blood Volume and Contrast Transfer Coefficient Predict Prognosis in Human Glioma?” Proceedings of the 43<sup>rd</sup> Annual Meeting of the **American Society of Neuroradiology**, Toronto, Canada, May 2005; p 306; presentation # 39 (**POSTER**)
- **Haroon HA**, Luzzi S, Alexander DC, Ciccarelli O, Wheeler-Kingshott CA, Lambon Ralph MA, Parker GJ, “Probabilistic tractography analysis of superior temporal gyrus connectivity to Wernicke’s and Broca’s areas” Proceedings of the 13<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Miami Beach, Florida, USA, May 2005; p 740 (**ORAL**)
- Jackson A, Patankar T, **Haroon H**, Mills S, Buckley D, Parker G, “Is Volume Transfer Coefficient ( $K^{trans}$ ) Related to Histological Grade in Human Gliomas?” Proceedings of the 13<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Miami Beach, Florida, USA, May 2005; p 670 (**ORAL**)

2004:

- Harrer JU, Parker GJM, **Haroon HA**, Buckley DL, Embleton K, Roberts C, Balériaux D, Jackson A, “Comparison of a conventional and two alternative imaging techniques for the assessment of vascular permeability in high-grade gliomas from T1-weighted dynamic contrast-enhanced MRI” Proceedings of the 29<sup>th</sup> Congress and 13<sup>th</sup> Advanced Course of the **European Society of Neuroradiology**, Aachen, Germany, September 2004 (**ORAL**) [Neuroradiology **46** (Suppl 1): S123]
- Harrer JU, **Haroon HA**, Buckley DL, Embleton K, Roberts C, Jackson A, Parker GJM, “Beurteilung mikrovaskulärer Charakteristika von hochgradigen Gliomen mit Kontrastmittel-gestützter dynamischer MRT” Proceedings of **DGN-Tagung**, Düsseldorf, Germany, September 2004 (**ORAL**) [Akt Neurologie **31** (Suppl 1): 7]
- Patankar TA, **Haroon HA**, Zhu X, Li K, Jackson A, “Cerebral Blood Volume Maps Generated from T<sub>1</sub>-Weighted Images are Superior to T<sub>2</sub>\*-Based Maps for Surgical Planning Applications” Proceedings of the 42<sup>nd</sup> Annual Meeting of the **American Society of Neuroradiology**, Seattle, Washington, USA, June 2004; presentation # 293 (**ORAL**)
- Harrer JU, Buckley DL, **Haroon HA**, Embleton K, Roberts C, Balériaux D, Jackson A, Parker GJ, “Microvascular characteristics of human gliomas: comparative assessment with conventional and alternative analysis methods for DCE-MRI” Proceedings of the 12<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Kyoto, Japan, May 2004; p 1967 (**POSTER**)
- Harrer JU, **Haroon HA**, Buckley DL, Embleton K, Roberts C, Jackson A, Parker GJM, “Assessment of Vascular Permeability in High-Grade Gliomas from T1-weighted Dynamic Contrast-Enhanced MRI: Comparison of a Conventional and Two Advanced Techniques” Proceedings of the Annual Meeting

of the **European Congress of Radiology**, Vienna, Austria, March 2004; abstract # B-313 (ORAL) [Eur Radiol **14** (Suppl 2): 195]

2003:

- Patankar T, **Haroon H**, Dow G, Rutherford S, Jackson A, “*Relationship between Vascular Endothelial Permeability and Histological Grade in Human Gliomas Using a Novel First Pass Method*” Proceedings of the 89<sup>th</sup> Scientific Assembly and Annual Meeting of the **Radiological Society of North America**, Chicago, Illinois, USA, November-December 2003; abstract # Q12 1308 (ORAL)
- Patankar T, **Haroon H**, Buckley D, Dow G, Rutherford S, Jackson A, “*A Comparison of  $K^{trans}$  Measurement Obtained with Conventional and First Pass Pharmacokinetic Models in Human Gliomas*” Proceedings of the 89<sup>th</sup> Scientific Assembly and Annual Meeting of the **Radiological Society of North America**, Chicago, Illinois, USA, November-December 2003; abstract # Q12 1307 (ORAL)
- **Haroon HA**, T.A. Patankar TA, X.P. Zhu XP, K.L. Li KL, A. Jackson A, “*Comparison of cerebral blood volume maps generated from  $T_2^*$ - and  $T_1$ -weighted first pass dynamic contrast-enhanced MRI data*” Book of Abstracts of the 20<sup>th</sup> Annual Meeting of the **European Society for Magnetic Resonance in Medicine and Biology**, Rotterdam, The Netherlands, September 2003; abstract # 348 (ORAL) [MAGMA **16** (Suppl 1): S184-5]

2002:

- Buckley DL, **Haroon HA**, Jackson A, “*Blood Flow, Blood Volume and Microvascular Permeability in Cerebral Gliomas*” Proceedings of the **International Society for Magnetic Resonance in Medicine Workshop on In Vivo Functional and Molecular Assessment of Cancer**, Santa Cruz, California, USA, October 2002; p 93-4 (POSTER)
- Buckley DL, **Haroon HA**, Jackson A, “*Blood Flow, Blood Volume and Microvascular Permeability in Cerebral Gliomas*” Proceedings of the 8<sup>th</sup> Annual Meeting of the **British Chapter of the International Society for Magnetic Resonance in Medicine**, Sheffield, UK, September 2002; abstract # 49 (POSTER)
- **Haroon HA**, Buckley DL, Patankar TA, Dow G, Rutherford S, Jackson A, “*A comparison of  $K^{trans}$  measurements in gliomas obtained with a conventional and first pass model*” Book of Abstracts of the 19<sup>th</sup> Annual Meeting of the **European Society for Magnetic Resonance in Medicine and Biology**, Cannes, France, August 2002; abstract # 399 (POSTER) [MAGMA **15** (Suppl 1): 192]
- **Haroon HA**, Patankar TA, Dow G, Rutherford S, Jackson A, “*Relationship between vascular endothelial permeability and histological grade in human gliomas using a novel first pass method*” Book of Abstracts of the 19<sup>th</sup> Annual Meeting of the **European Society for Magnetic Resonance in Medicine and Biology**, Cannes, France, August 2002; abstract # 133 (ORAL) [MAGMA **15** (Suppl 1): 60]
- Patankar T, **Haroon H**, Jackson A, “*Endothelial permeability measurements fail to distinguish between tumour grade in enhancing glioma.*” Proceedings of the **UK Radiological Congress**, Birmingham, UK, June 2002; p 40 (ORAL)
- Jackson A, Jayson G, **Haroon H**, Mulatero C, Julyan P, Zweit J, “*MRI demonstrates changes in tumoral capillary endothelial permeability in response to VEGF inhibition with HuMV833 anti-VEGF antibody*” Proceedings of the **UK Radiological Congress**, Birmingham, UK, June 2002; p 32 (ORAL)
- **Haroon HA**, Patankar TA, Dow G, Rutherford S, Jackson A, “*Relationship between Vascular Endothelial Permeability and Histological Grade in Human Gliomas using a Novel First Pass Method*” Proceedings of the 10<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, May 2002; p 2113 (POSTER)
- **Haroon HA**, Buckley DL, Patankar TA, Dow G, Rutherford S, Jackson A, “*A Comparison of  $K^{trans}$  Measurements in Gliomas obtained with a Conventional and First Pass Model*” Proceedings of the 10<sup>th</sup> Scientific Meeting and Exhibition of the **International Society for Magnetic Resonance in Medicine**, Honolulu, Hawai’i, USA, May 2002; p 663 (ORAL)
- Julyan PJ, Zweit J, Mulatero C, Lawrance J, Hastings DL, Jackson A, **Haroon H**, Levitt D, Tang T, Jayson GC, “*A phase I clinical trial of anti-angiogenic therapy: pharmacokinetics by PET in relation to pharmacodynamics by dynamic MR with implications for future study design*” Abstracts of the

30<sup>th</sup> Annual Meeting of the **British Nuclear Medicine Society**, Manchester, UK, April 2002; Abstract # 33 (Oncology) [Nucl Med Commun **23** (4): 391-392]

2001:

- Jayson GC, Mulatero C, Ranson M, Zweit J, Hastings D, Julyan P, Lawrance J, McGown A, Jackson A, **Haroon H**, Hakansson L, Wagstaff J, Groenewegen G, Lehmann F, Levitt D, Tang T, Zweirzina H, "Anti-VEGF Antibody HuMV833: an EORTC Biological Treatment Development Group Phase I Toxicity, Pharmacokinetic and Pharmacodynamic Study" (VM2001 Lecture.) Proceedings of the 37<sup>th</sup> Annual Meeting of the **American Society of Clinical Oncology**, San Francisco, CA, USA, May 2001; **20**: abstract #14 – VM2001 Lecture (ORAL)

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**Acknowledged in:**

- Cloutman, LL, et al, "Using in vivo probabilistic tractography to reveal two segregated dorsal 'language-cognitive' pathways in the human brain" *Brain and Language*, 2013; **127** (2): 230-240
- Binney, RJ, et al, "Convergent Connectivity and Graded Specialization in the Rostral Human Temporal Lobe as Revealed by Diffusion-Weighted Imaging Probabilistic Tractography" *Journal of Cognitive Neuroscience*, 2012; **24** (10): 1998-2014
- Smallman R, PhD Thesis: "Schizotypy and the association with brain function and structure", The University of Manchester, UK, 2011
- Scott MLJ, PhD Thesis: "Towards a Quantitative Methodology for the Assessment of Cerebral Blood Flow in Magnetic Resonance Imaging", The University of Manchester, UK, 2005
- Tofts P, ed, Book: "Quantitative MRI of the Brain: Measuring Changes Caused by Disease", John Wiley & Sons, ISBN 0-470-84721-2, 2003
- Buckley DL, "The influence of transcapillary water exchange on the analysis of tracer kinetics in dynamic Gd-DTPA-enhanced T<sub>1</sub>-weighted MRI" Proceedings of the 10<sup>th</sup> Scientific Meeting and Exhibition of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawai'i, USA, May 2002; p 2120

## **Financial Support:**

Apr 2016:

- ***The University of Manchester Faculty of Medical & Human Sciences – The Wellcome Trust Institutional Strategic Support Fund (ISSF) for Public Engagement:*** I am a Co-Investigator on this Public Engagement Grant entitled “Seeing the Brain in Action”. This project will run for 6 months starting in May 2016. Dr Laura Parkes is Principal Investigator. This grant is worth £2,400 in total.

Jul 2015:

- ***The University of Manchester Faculty of Medical & Human Sciences’ Research Deanery – MRC Confidence in Concept (CiC) Funding Scheme Round 3:*** I am a Co-Investigator on this Project Grant entitled “MRI-based Diffusion Orientation Complexity (DOC): A Non-Invasive Novel Biomarker of Cardiac Fibrosis and Heart Failure”. This project will run for 9 months starting on 1<sup>st</sup> October 2015. Dr Josephine Naish is Principal Investigator. This grant is worth £85,082 in total.

Nov 2012:

- ***The University of Manchester’s Magnetic Resonance Imaging Facilities – Grant for Development of Novel Scanning or Analysis Methods (MD080):*** I am a Co-Investigator on this Grant for 20 hours of development scan time on the Manchester NIHR/WT-CRF 3.0 T entitled “Application of Novel Diffusion Imaging Techniques for the Assessment of Cardiac Tissue Microstructure”. Dr M Schmitt is Principal Investigator. This grant is worth approximately £9,000 in total.

May 2012, May 2010, Apr 2009, May 2008, May 2007, May 2006, May 2005:

- ***Department for Work and Pensions, Access to Work – Support Worker Travel Expenses:*** Enabled my personal support assistant to accompany me to attend and present at the annual International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meetings and Exhibitions.

May 2010:

- ***Guarantors of Brain – Travel Grant:*** Enabled me to attend and present at the ISMRM-ESMRMB Joint Annual Meeting in Stockholm, Sweden.

Sep 2006:

- ***Biotechnology and Biological Sciences Research Council – Research Grant (BB/E002226/1):*** I was a Co-Applicant and Researcher-Co-Investigator on this three-year Grant. Prof GJM Parker was Principal Investigator. This grant was worth £397,118 in total.

May 2006, May 2005, May 2002:

- ***International Society for Magnetic Resonance in Medicine – Educational Stipends:*** Enabled me to attend and present at the annual International Society for Magnetic Resonance in Medicine (ISMRM) Scientific Meeting and Exhibition. Eligible to apply a maximum of three times for this stipend.

May 2005:

- ***The Institute of Physics, Medical Physics Group – Financial Support towards the cost of attending Overseas Meeting:*** Enabled me to attend and present at the ISMRM 13<sup>th</sup> Scientific Meeting and Exhibition in Miami Beach, Florida, USA.

Jan 2002, Jan 2001:

- ***The University of Manchester, Annual Fund – Scholarships:*** Support during my PhD degree programme.

Jan 2000, Sep 1998:

- ***The Snowdon Award Scheme – Grants:*** Support during my MSc and PhD degree programmes.
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## **Experience and Skills:**

### **Recent Formal Training:**

- Jul 2016: **Good Clinical Practice Online Course** – by Faculty eLearning Team, Faculty of Medical & Human Sciences, The University of Manchester. Awarded full GCP certificate on 28<sup>th</sup> July 2016, having passed all 5 module tests!
- Apr-Jun 2014: **Achieving Your Potential: development and coaching for disabled staff** – by Result CIC for The University of Manchester. I was awarded a certificate for completing this programme by Sir Bert Massie on 10<sup>th</sup> July 2014.
- 19 Jun 2013: **Public Engagement Workshop** – by The Training Group for the Biomedical Imaging Institute, The University of Manchester.
- 29 May 2013: **STEMNET Ambassador Induction** – Museum of Science and Industry, Manchester, for the Science, Technology, Engineering and Mathematics Network (STEMNET).
- 11 Apr 2013: **Good Clinical Practice Refresher: A practical guide to ethical and scientific quality standards in clinical research** – Greater Manchester Clinical Research Network, National Institute for Health Research, NHS.
- 31 Mar 2011: **Data Protection Update Session** – Research Office and IT Services, Faculty of Medical & Human Sciences, The University of Manchester.
- 16 Feb 2011: **Good Clinical Practice in Research Training** – Research & Innovation Division, Central Manchester University Hospitals NHS Foundation Trust.
- 21 Oct 2010: **Research Ethics Study Day** – Research Office, Faculty of Medical & Human Sciences, The University of Manchester.

### **Scientific Consultancy:**

- **Bioxydyn Ltd** – I have collaborated closely with MR imaging analysts at Bioxydyn Ltd (<http://www.bioxydyn.com/>) on an informal basis since November 2013, helping them to run my analysis code on their MR diffusion data, to perform probabilistic tractography, to analyse their MR anatomical scans, and to troubleshoot. In November 2014, Bioxydyn Ltd asked me to formalise the support I provide by taking up a consultancy agreement with them via The University of Manchester.

### **Computer Programming:**

- **Coding** – I am presently an active code-writer in Matlab, and have also coded in C++ and IDL. I am gaining more experience and confidence with C++ (including object-orientated) programming, and shell scripting under Linux/Unix. I used to program in Java and Pascal during my MSc and BSc degree programmes, respectively, but I'm probably very rusty now.

### **Reviewing Conference Abstracts:**

- **ISMRRM** – I was accepted to review abstracts in November 2014 and 2015 submitted to the International Society for Magnetic Resonance in Medicine (<http://www.ismrm.org/>) Annual Meetings in 2015 and 2016. I received approx. 30 and 50 abstracts, respectively, on MR diffusion and tractography methods to review in just over two weeks – some were really high quality and some didn't impress me much!

### **Reviewing Journal Manuscripts:**

- **Peer Reviewer** – I was invited to review a manuscript that had been submitted to the IEEE Transactions on Medical Imaging in February 2007 for a Special Issue on Computational Diffusion MRI. I was invited to review a manuscript that had been submitted to the Journal of Magnetic Resonance Imaging in December 2011. Unfortunately, I recommended that the manuscript be rejected on both occasions!

### **Reviewing Funding Applications:**



- **Nuffield Panel Reviewer** – In April 2009, April 2010 and April 2011, I was a Panel Reviewer for applications submitted to the Nuffield Undergraduate Research Bursaries Scheme. The applications I highly recommended were funded by the Nuffield Trustees and the ones I did not recommend were not funded!

#### ***Organising Scholarly Meetings:***

- **MR Meetings** – Between November 2004 and March 2011, I organised the Magnetic Resonance Meetings held every other Friday in the Centre for Imaging Sciences at The University of Manchester. I managed a schedule of presentations and maintained an internal wiki page on past, present and future meetings. I sought potential volunteers to present at the meetings and arranged special meetings to coincide with the visits of guests who had been invited to present to our Centre. Our meetings included talks on research work, progress updates, journal clubs, topical discussions or practice presentations for upcoming conferences.

#### ***Teaching and Students:***

- **Poster Judge** – I was asked to represent the Institute of Population Health as a judge of students' posters at the Postgraduate Research Showcase in the Faculty of Medical and Human Sciences, at The University of Manchester, on 11<sup>th</sup> September 2014. Each poster had three judges. The student's poster I gave the best marks to won the first prize in the poster competition.
- **Assessing MSc Students** – In the spring of 2014, I helped mark a group of 7 MSc students on their presentations and discussions on journal papers that they had chosen for the "Imaging in Neuroscience" module. I gave a tutorial to a group of 3 MSc students on "Measuring GABA in the Brain" and marked their poster on this.
- **Guidance to PhD Students** – I provide guidance to a number of internal and external PhD students and research staff who analyse diffusion and anatomical MR data. I have provided informal supervision and guidance to a PhD student since October 2013, who is focusing on MR data analyses in the SANTA research project and other studies involving autistic children.
- **Tutor for MBChB Medical Students** – In September 2008, I became a tutor-facilitator and a reviewer for MBChB Personal and Professional Development Portfolio of Year 1 medical students in the Manchester Medical School, and in February 2011 I started tutoring and reviewing Year 2 students.
- **Guidance to Intercalating Medical Students** – In the spring of 2015, I contributed to the guidance of an intercalating medical student on their processing and analyses of MRI diffusion data in healthy humans and human patients with Parkinson's Disease. In the spring of 2010, 2011 and 2012, I contributed to the guidance of intercalating medical students on their 10-week research projects involving MRI diffusion and tractography data in healthy aged humans and human patients with Mild Cognitive Impairment and Early Alzheimer's Disease.
- **Supervising Postgraduate and Undergraduate Research Projects** – In summer 2015, I supervised an MSc student on their Dissertation research project involving the DOC analysis of MRI diffusion data in healthy aged humans and human patients with fronto-temporal dementia. In spring 2015, I contributed to the guidance of two MPhys students on their Semester 8 research project involving processing and analysis of MRI diffusion data to assess the effects of plasticity in healthy humans. In summer 2014, I provided guidance to an MSc student in the School of Psychology on their Dissertation research project involving analyses of publicly available MR diffusion data acquired with different settings and tractography, in healthy humans. In the summer of 2010, I co-supervised one MSc student on their Dissertation research project involving analyses of MRI anatomic and diffusion data in healthy young humans. I also co-supervised a second-year undergraduate medical student from Cambridge University who joined us on a six-week Wellcome Trust Biomedical Vacation Scholarship placement carrying out a research project involving analyses of MRI anatomic and diffusion data in healthy aged humans and human patients with Mild Cognitive Impairment and Early Alzheimer's Disease. In the summer of 2009, I contributed to

the guidance of two MSc students on their Dissertation research projects involving MRI tractography data in human and non-human primates.

### ***Science Outreach, Public Engagement and Volunteering:***

- **Minute Microlecture** – On 20<sup>th</sup> July 2013, as part of the fourth Manchester Minute Microlectures (M-cubed, <http://www.mhs.manchester.ac.uk/public/engagement/mcubed>) event, run by the Faculty of Medical & Human Sciences at The University of Manchester, I gave a one-minute talk about my current research work on the heart in St Anne's Square in the City Centre of Manchester. This was the first time this event took place in an open public area away from the University campus!
- **STEMNET Ambassador** – As of June 2013, I have become an approved STEM (<http://www.stemnet.org.uk>) Ambassador! I took part in a one-hour "Virtual In The Hot Seat" session over Skype with students aged 14-15 years old at Standish Community High School Wigan on 30<sup>th</sup> March 2015 and at Marple Hall School Stockport on 24<sup>th</sup> September 2014, who asked me questions about my career. I volunteered as a STEM Ambassador at TeenTech Manchester on 10<sup>th</sup> December 2014, hosted by The University of Manchester, and guided a group of 10 secondary school pupils and their science teacher around the event.
- **ScienceGrrl** – I am a member of ScienceGrrl (<http://www.sciencegrrl.co.uk>) as one of their supporting ScienceBoyz! I feature on the May page of the ScienceGrrl 2013 Calendar, along with Professor Dame Nancy Rothwell (President & Vice Chancellor of The University of Manchester) and Dr Heather Williams (Director of ScienceGrrl, Senior Medical Physicist in Nuclear Medicine, and my good friend)!!! I was invited to the Calendar's Launch Party at The Science Museum's Smith Centre in London on 18<sup>th</sup> October 2012, which was attended by some famous people in popular science. I helped out at the ScienceGrrl Inaugural "Because Science is for Everone" Public Lecture given by Professor Brian Cox on "Particle Physics" at The University of Manchester on 10<sup>th</sup> October 2013.
- **Biomedical Imaging Institute** – I became involved in the public engagement activities of The University of Manchester's Biomedical Imaging Institute, since helping at an event at the Museum of Science and Industry in November 2012. I took part in some sessions to develop new ideas for future events and activities, at which I suggested that we need to evaluate how accessible events and activities are to disabled members of the public.
- **ISMRM British Chapter in Manchester** – The 17<sup>th</sup> Annual Scientific Meeting and Workshop of the ISMRM British Chapter was held at The University of Manchester on 7<sup>th</sup>-9<sup>th</sup> September 2011. I volunteered to help out at this conference with my colleagues in the University's Biomedical Imaging Institute.
- **Students Work Experience Visits** – At various times during the year, since July 2009, I organise afternoon visits to our centre at The University of Manchester for a small number of students who are on work experience placements with Dr Heather Williams (Senior Medical Physicist, and my good friend) at the Nuclear Medicine Department at Manchester Royal Infirmary. This gives the students the opportunity to experience the research/academic career opportunities in Medical Physics, in contrast to those in the NHS.
- **Researcher in Residence** – In 2002 and 2003, while a PhD student, I took part in the "Researcher in Residence" scheme. I attended my old secondary school, Abraham Moss High School in Crumpsall, Manchester, one day a week for a number of weeks. I worked with science teachers to design special projects for their pupils, and talked to pupils about aspects of science they found intriguing and inspiring. It was so nice to see my teachers still there!

### ***Involvement in Equality and Diversity:***

- **University Zero-Tolerance Campaign** – I feature on The University of Manchester's "We Get It" video (<http://www.manchester.ac.uk/we-get-it/>) as part of its campaign of zero-tolerance for any form of bullying, harassment and discrimination, experienced by students and staff, launched in

December 2014. I was invited to be on the video by the University's Equality & Diversity Team to help promote its staff networks.

- **Manchester Universities' IDDP 2014 Event** – The Disabled Staff Network at The University of Manchester and the Disabled Staff Forum at Manchester Metropolitan University collaborated together to organise a joint celebration of the UN-designated International Day of Disabled People (IDDP) on 3<sup>rd</sup> December 2014. Approximately 80 people attended from both universities – staff, students and local partners. I had a leading role in the Planning Group for this historic event.
- **Snowdon Trust Ambassador** – The Chief Executive of the Snowdon Trust contacted me in October 2014 to invite me to become an Ambassador for the Trust and help them with fundraising activities. The Snowdon Award Scheme supported me financially during my MSc and PhD studies. I received a special invitation to attend the Earl of Snowdon's 80<sup>th</sup> Birthday Reception at the Porchester Hall in London on 5<sup>th</sup> March 2010 – it was a brilliant party!
- **Alf Morris Memorial** – In September 2014, the Manchester Trades Union Council initiated collaboration with the North West TUC Disability Forum, Mike Kane MP, Manchester City Councillor Dan Gillard and the family of the late Lord Alf Morris of Manchester to establish a permanent memorial in Manchester to commemorate his pioneering role in disability rights legislation. I offered the support and involvement of The University of Manchester's Disabled Staff Network in the plans for this memorial. I represent our Network and University at collaborative meetings.
- **Mental Health Awareness Project** – The University of Manchester's Disabled Staff Network was approached in July 2014 by a colleague seeking help to organise a new science-meets-arts mental health awareness public engagement project in Manchester. I have been helping by making contacting relevant academics, researchers and professional support services at the University and senior staff at The Manchester Museum, and arranging meetings to discuss our colleague's ideas.
- **NADSN** – At our “What Are We Hiding?” National Conference for disabled staff at The University of Manchester on 6<sup>th</sup> June 2014, I launched the UK's National Association of Disabled Staff Networks (NADSN, <http://nadsn-uk.org/>) and became its **Founder and Convenor**. This focusses on disabled staff at institutions of higher and further education across the UK, but is open to any interested organisation or individual. NADSN already has 87 members from all over the UK, and 31 of them have formed a Founding Steering Group to establish the Association. NADSN has helped Dr Nicki Martin with a research study on “disabled leaders in higher education”, and I have lead a small focus group on behalf of Nicki at The University of Manchester on 10<sup>th</sup> November 2014 involving disabled staff at Manchester's three universities. NADSN held a one-day conference in collaboration with The University of Chester during the University's Diversity Festival in March 2015, which I co-organised and officially opened. NADSN held a workshop on disabled staff networks at the International Conference of the National Association of Disability Practitioners (NADP, <http://www.nadp-uk.org/>) in July 2015 in Manchester. NADSN submitted written evidence to the House of Lords Select Committee on “the Equality Act 2010 and Disability” on 11<sup>th</sup> September 2015, which I coordinated. Kate Nash Associates (<http://www.katenashassociates.com>) have invited leading members of NADSN, including me, to attend the launch party of their new initiative called #PurpleSpace in central London on 6<sup>th</sup> October 2015!
- **First National Conference for Disabled Staff** – I had a leading role in the Steering Group for “What Are We Hiding?”, the first national conference of the UK's disabled workforce, on 6<sup>th</sup> June 2014, organised and hosted by the Disabled Staff Network at The University of Manchester. I had the original idea for this conference. We employed a group of 10 University Student Ambassadors to act as stewards/marshals, whom I supervised. I also co-lead a workshop on “Disabled Staff Networks” with the Co-Chair of the Disabled Staff Forum at Manchester Metropolitan University. Over 100 people attended the conference from all parts of the UK, and provided overwhelmingly positive feedback about this historic event!
- **Development and Coaching for Disabled Staff** – In July 2013, I initiated dialogue between The University of Manchester and Result CIC, which resulted in Result CIC providing a ground-breaking development programme and coaching specifically for disabled staff called “Achieving Your

Potential". I was in the first cohort of staff to benefit from this programme in 2014. Our cohort remains in close contact and we plan to continue to offer peer-support to each other and "mentor" the new cohort in 2015, with the University's backing.

- **Time To Change Pledge** – "Time To Change" is England's biggest programme led by Mind and Rethink Mental Illness to challenge mental health stigma and discrimination. In March 2013, I co-initiated The University of Manchester's involvement in this campaign, and represented disabled staff in the Organisational Pledge Action Plan Working Group led by the University's Equality & Diversity Team. The University officially signed its Time To Change Organisational Pledge on 13<sup>th</sup> June 2013. I continue to represent disabled staff on our Working Group which monitors implementation of the Action Plan and keeps it under review.
- **University Disability Consultative Group** – I represent disabled staff and the Disabled Staff Network on the University's Disability Consultative Group, since it was formed in December 2012. This Group was formed to promote and improve the work of the University's Disability Support Office following its review in early 2012. The Group is chaired by the University's Associate Vice-President for Teaching, Learning and Students, and currently focusses on an inclusive curriculum.
- **Athena SWAN Self-Assessment Team** – The University of Manchester's Institute of Population Health formed a committee in October 2012 to work on its contribution to the Athena SWAN (<http://www.athenaswan.org.uk>) Award application for the School of Medicine. I am one of very few male members of this committee! The School of Medicine achieved a Bronze Award in April 2013, and we are now working on our application for a Silver Award. Since July 2013, I have also been a member of the University Athena SWAN Self-Assessment Team to represent research staff. We submitted an application for an institutional Silver Award in November 2014.
- **Local Primary School Equality Scheme** - Webster Primary School in Moss Side, Manchester, set up a Single Equality Scheme Working Group in November 2011 to help the school fulfil its obligations under equality legislation. The teacher in charge of this invited me to be part of this group, due to my personal connections with the school. The school published its Single Equality Scheme in May 2012, which I contributed to producing.
- **Faculty E&D Committee** – I was made a member of the Equality and Diversity Committee in the Faculty of Medical & Human Sciences at The University of Manchester, when it was constituted in October 2011, to represent disabled staff. From November 2014, I also represent the Faculty's Institute of Population Health on this Committee.
- **First Disability Adviser for Staff** – I was on the interview and selection panel for appointing The University of Manchester's first Disability Adviser for Staff in the Disability Support Office, in May 2008. The other two members of the panel were the Head of Equality & Diversity and the Head of the Disability Support Office, who chaired the panel.
- **University Disabled Staff Network** – In September 2007, I was elected as the first **Chair** of the Disabled Staff Network at The University of Manchester. As such I was expected to: arrange and chair the Network's regular meetings; send out messages and consultation papers to members of the Network and collate feedback; be a point of contact for the University's Equality & Diversity Team; liaise with the University Senior Leadership "Champion" for the Network; and to represent disabled staff at the University's Equality & Diversity Forum, chaired by the University's Associate Vice-President for Social Responsibility and Equality & Diversity, which includes the Chairs of all the other Staff Networks, Officers of the Students' and Campus Trade Unions, and the University's President & Vice-Chancellor and Registrar & Secretary. I had a one-to-one meeting with the University President & Vice-Chancellor, the late Professor Alan Gilbert, on 21<sup>st</sup> May 2008 to present a SWOT analysis to him on the issues facing the University's disabled staff at the time – an experience I'll never forget. I became Co-Chair in August 2013.
- **Activity as a Student** – In my first year as an undergraduate student at UMIST (as it was formally known) I was elected as the Disability Access Secretary in the Students' Union Council and was an active participant in the drafting of UMIST's first Disability Statement. I was also actively involved in the creation of the Access Summit Centre, which continues to provide services and support to disabled students in post-16 education across the North West of England.

### ***Being an Employer:***

- **Personal Assistant** – I have a personal support assistant (PA) who helps me to manage everyday physical tasks I find difficult to do. Since April 1997 I have employed my PSA on a private basis, using Direct Payments funding from Manchester City Council Social Services and funding from other central Government agencies. I have been able to manage this sensitive employer-employee relationship well, taking a friend-based approach, following all the relevant legislation and regulations. I've even learnt how to deal with payroll matters successfully, including tax and national insurance calculations and returns to HM Revenue & Customs. In October 2006 I engaged the services of an accountant to deal with all the employment paperwork that take up so much time, so I now only need to decide on the hours that my PA is to work, holiday entitlement, etc.

### ***Languages:***

- **My Heritage** – English is my first language. Punjabi and Urdu are languages that we use in our family and community, so I can understand these languages fully, and can read Urdu to some extent. My wife is helping me to improve on my poor verbal fluency in Punjabi and Urdu. We use many Arabic phrases routinely as Arabic is the language of our faith, Islam. I can read the original classical Arabic text of the Holy Quran proficiently and have memorised some portions of it along with the formulae for the prayers we offer. My understanding of the Arabic language is improving with the help of my Arab friends at our local Mosque.

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*Updated on 04 July 2017  
H A Haroon*