

RICHARD GEOFFREY WISE

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CURRENT POSITION

- Sept 2019-present **Full Professor** (Professore Ordinario - Chiamata Diretta), Institute for Advanced Biomedical Technologies & Department of Neuroscience, Imaging and Clinical Sciences, "G. D'Annunzio" University of Chieti-Pescara, Chieti, Italy.
- Jan 2024-present **Director** of the Institute of Advanced Biomedical Technologies (ITAB), "G. D'Annunzio" University of Chieti-Pescara, Chieti, Italy.

PREVIOUS POSITIONS

- 2009-2019 Professor (Chair), Cardiff University Brain Research Imaging Centre (CUBRIC), Department of Psychology, Cardiff University
- 2015-2019 Director of MRI, CUBRIC, Department of Psychology, Cardiff University
- Oct 2006-2014 Director of FMRI, CUBRIC, Department of Psychology, Cardiff University
- 2006-2009 Reader, CUBRIC, Department of Psychology, Cardiff University
- 2012-2016 Visiting scientist, Fondazione Santa Lucia IRCCS, Roma
- Jun – Sept 2011 Visiting Professor, Dipartimento di Fisica, Sapienza Università di Roma
- 2006-2010 **MRC Career Development Fellow**, Cardiff University
- 2005-Sept 2006 **MRC Career Development Fellow**, FMRIB Centre, Oxford University
- 2006-Sept 2006 **University Research Lecturer**, Department of Clinical Neurology, Oxford University
- 2002-2005 **Wellcome Trust Advanced Training Research Fellow**, Department of Human Anatomy and Genetics and FMRIB Centre, Oxford University
- 2000-2002 Post-doctoral research scientist (assegno di ricerca), FMRIB Centre, Department of Clinical Neurology, Oxford University
- 1999 "System Engineer", The Smith Group, Guildford, United Kingdom

DEGREES

- 1994-1998 **PhD**, Fitzwilliam College and Herchel Smith Laboratory for Medicinal Chemistry, Department of Clinical Medicine, Cambridge University. "Magnetic Resonance Imaging Studies of Cardiovascular Function and its Changes in Hypertension"
- 1991-1994 **BA Hons (First Class)**. Natural Sciences (Part II: Physics and Theoretical Physics), Fitzwilliam College, Cambridge University

SUMMARY OF RESEARCH

PUBLICATIONS

- 169 refereed journal articles (please refer to full list of publications below).
- h-index 52 (Scopus), with >11000 citations

EXTERNAL FUNDING

- >25 years of sustained research income generation as PI, Co-I
- £25.8M awarded as PI or Co-I to date
- Please refer to full list of grant funding below

RESEARCH PROGRAMME

My research aims to development MRI methods to map human brain physiology and to apply such methods in clinical neuroscience research (neurology, neurosurgery and psychiatry). In the long term we are working towards new clinical MRI tools for improving diagnosis and treatment stratification for brain disease. These tools are based on detailed evaluation of brain tissue function including blood flow, oxygen metabolism and microvascular function.

In September 2019 I moved from Cardiff University Brain Research Imaging Centre (CUBRIC) to my position at the University of Chieti-Pescara in Italy. I was recruited by 'direct call' by the Ministry of Universities and Research with the aim of setting up the neuroimaging research programme on the new research-dedicated Siemens Prisma 3T MRI system, building on the success of the existing MRI group. By developing collaborative research between imaging methodologists and clinical researchers, we aim to further enhance the research output of my department, rated as top for Applied Physics in the recent Italian 'Departments of Excellence' funding competition.

I maintain strong research links with CUBRIC, UK, collaborating with that centre and Siemens in the development of MRI methods. These, we have applied to the study of drug action in the human brain, working with colleagues in the pharmaceutical industry.

RESEARCH FUNDING AWARDED

2023-2026	EU-NextGenEU- Italian MUR, PNR and PRIN, n. 2022MHMSSJ, "Combining magnetic resonance imaging and optical spectroscopy to map microvascular function and oxygen metabolism in healthy and diseased brain." PI RG Wise 200,000 €
2022-2025	Fondo per la Promozione e lo Sviluppo delle politiche del Programma Nazionale per la Ricerca - di cui al DM 737/2021 emanato dal MUR Innovating advanced magnetic resonance imaging (MRI) tools to quantify brain function in neurological disease PI RG Wise 150,000 €
2019-2023	EPSRC, "An integrated MRI tool to map brain microvascular and metabolic function: improving imaging diagnostics for human brain disease" PI: RG Wise. Co-Is: Yulia Hicks, John Staffurth. Totale: £1,116,430
2019	Health and Care Research Wales, Pathway to Portfolio – Development funding, "Cystic Fibrosis- memory assessment and MRI scanning" PI: J Duckers. Co-Is: RG Wise, C Metzler-Baddeley. Totale £16,410

2019-2021	Pfizer, ASPIRE, research awards. “Effect of Tofacitinib on Pain Processing in Rheumatoid Arthritis (ToPPRA)” PI: E Choy, Co-PI: RG Wise, Co-I: Sharmila Khot. Totale: £331,000
2017-2018	MRC Confidence in Concept (Cardiff University), “Demonstrating clinical utility of a non-invasive MRI tool to map altered brain oxygen metabolism: proof of concept in epilepsy” PI: RG Wise. Co-Is: Khalid Hamandi, Patrick Fielding, Hannah Chandler Totale: £49,884
2016-2019	Moondance Charitable Fund (Velindre NHS Trust), “An observational study of neurocognitive function in patients undergoing Stereotactic Radiosurgery at Velindre Cancer Centre” PI: J Powell Co-Is: RG Wise (lead imaging applicant), J Staffurth, S Iqbal, G Lewis, T Millin, A Bryant, A Johnson, DK Jones, W Gray. Totale: £124,362
2016-2017	Joint Programme – Neurodegenerative Disease Research (JPND), EU Funding: Working Groups for the Harmonisation and Alignment in Brain Imaging Methods for Neurodegeneration, “European Ultra-high field Imaging Network for Neurodegenerative Diseases, EUFIND” PI: E Duzel Co-Is: RG Wise (Lead for Cardiff), K Graham, D Linden & 73 others from 23 European sites. Totale: €50,000
2016-2019	Alzheimer’s Research UK, “Multi-centre optimization and harmonization of MRI image acquisition schemes: a UK-wide coordinated approach to advanced neuroimaging in dementia” PI: D Thomas; Network investigator: RG Wise (Lead for Cardiff), A Lawrence & 19 others from 8 UK sites. Totale: £249,807
2016 - 2021	Arthritis Research UK, Biomechanics and Bioengineering Centre (Centre renewal grant) PI: B Caterson, Co-applicant: RG Wise and 15 others. Totale: £2,000,000
2016-2020	MRC, “Characterising brain network differences during scene perception and memory in young adult APOE-e4 carriers: multi-modal imaging in ALSPAC” PI: K Graham Co-Is: A Lawrence, Richard Wise, Derek Jones, Jiaxiang Zhang, Nicola Filippini, Lisa Saksida, Clare Mackay, Katarzyna Kordas. Totale: £1,865,362
2016-2019	MRC Partnership Grant, “The UK7T Network: developing the ultra-high field MRI platform for biomedical research” PI: R Bowtell Co-Is: RG Wise (lead Cardiff applicant) & 17 others Totale: £1,302,903
2016-2019	BRACE PhD studentship, “Revealing hippocampal dysfunction in mild cognitive impairment by ultra-high field magnetic resonance imaging (MRI)” PI: R Kauppinen Co-Is: RG Wise, L Coulthard, P Warr Totale: £84,327
2015-2016	Wellcome ISSF Seedcorn (Cardiff University), “Imaging the distribution of intra- and extracellular sodium in the human brain using 7 Tesla MRI” PI: Richard Wise, Co-Is: I Driver, C Beaulieu Totale: £34,000

2014-2016	<p>MRC, Enhancing UK's Clinical Research Capabilities and Technologies 2014. “Ultra-High Field MRI: Advancing Clinical Neuroscientific Research in Experimental Medicine” PI: Richard Wise. Co-Is: Derek Jones, Krish Singh, David Linden, Risto Kauppinen, Kim Graham Totale: £6,700,929</p>
2014-2019	<p>EPSRC, Strategic Equipment Fund. “National Facility for In Vivo MR Imaging of Human Tissue Microstructure” PI: Derek Jones (Cardiff). Co-Is: Daniel Alexander (UCL), Richard Bowtell (Nottingham), Mara Cercignani (Sussex), Flavio Dell’Acqua (KCL), Geoff Parker (Manchester), Krish Singh (Cardiff), Richard Wise (Cardiff), Karla Miller (Oxford), Hywel Thomas (Cardiff). Totale: £2,944,960</p>
2016-2021	<p>Wellcome Trust, Strategic Award “Multi-Scale and Multi-Modal Assessment of Coupling in the Healthy and Diseased Brain” PI: Derek Jones (Cardiff). Co-Is: Yaniv Assaf (Tel Aviv / Cardiff), Chris Chambers (Cardiff), Kim Graham (Cardiff), Peter Jezzard (Oxford), David Linden (Cardiff), Peter Morris (Nottingham), David Nutt (ICL), Petroc Sumner (Cardiff), Krishna Singh (Cardiff), Richard Wise (Cardiff). Totale: £4,900,000</p>
2014-2016	<p>The Wolfson Foundation “CUBRIC – The Cardiff University Brain Research Imaging Centre” PI: Krishna Singh. Co-Is: Derek Jones, Richard Wise, David Linden, Kim Graham, Chris Chambers, Petroc Sumner. Totale: £1,000,000</p>
2014-2017	<p>The Dunhill Medical Trust (R333/0214), “Effect of d-cycloserine on brain processing of breathlessness in COPD patients undergoing pulmonary rehabilitation.” PI: Kyle Pattinson. Co-Is: N Rahman, H Johansen-Berg, C Harmer, A Reinecke, M Herigstad, RG Wise, S Booth. Totale: £267,743</p>
2013-2016	<p>EPSRC, (EP/K020404/1), “Quantitative functional MRI: developing non-invasive neuroimaging to map the human brain’s consumption of oxygen” PI: Richard Wise, Co-Is: JE Hall, W Gray, V Tomassini, CJ Evans, K Murphy Totale: £706,000</p>
2014-2017	<p>Multiple Sclerosis Society, “Predicting the individual’s potential for functional recovery in Multiple Sclerosis: a novel clinical and neuroimaging strategy.” PI: Valentina Tomassini, Co-Is: Richard Wise, Derek Jones, Neil Robertson Totale: £263,362</p>
2013-2018	<p>ESRC Multidisciplinary PhD Pilot Scheme, “Wales Integrative PhD programme in Neurodegeneration (WIN): Unifying Social and Biological Approaches to Early Detection of Dementia.” PI: Kim Graham, Co-Is: Lawrence, Hedgecoe, Haddock, Maio, Wise, Woods, Morris, Williams, Latimer. Totale: £550,000</p>
2012-2017	<p>Wellcome Trust “Dedicated Computing Infrastructure for CUBRIC” Applicants: Prof D Jones, Prof K Singh, Prof RG Wise Totale: £665,000</p>

2008-2014 (extended 2016)	Wellcome Trust, 4 yr PhD programme in Integrative Neuroscience. Principal Investigators Prof Vincenzo Crunelli, Prof John Aggleton. Approx £4m. Co-Is: Prof Mark Good, Prof Kim Graham, Prof Robert Honey, Prof Derek Jones, Prof Simon Killcross, Prof Andrew Lawrence, Prof John Pearce, Prof Krish Singh, Dr Ed Wilding, Dr Richard Wise , Prof Nick Craddock, Dr Lesley Jones, Dr George Kirov, Dr Michael O'Donovan, Prof Michael Owen, Prof Anita Thapar, Dr Marianne van den Bree, Prof Lawrence Wilkinson, Prof Julie Williams, Dr Nigel Williams, Prof Vladimir Buchman, Prof Alun Davies, Prof Stephen Dunnett, Prof Kevin Fox, Prof AJ Harwood, Dr Stuart Hughes, Prof Anne Rosser, Dr Frank Sengpiel.
2016-2020	China Medical University Partnership Programme “Cortical encoding of touch” Fellow: Dr James Kolasinski Mentor: Richard Wise
2016-2021	Wellcome Trust Senior Fellowship, “Assessing the health of ageing blood vessels in the brain using fMRI” Fellow: Dr Kevin Murphy Mentor: Richard WISE Total value: £1,505,844
2013- 2015	Wellcome ISSF Seedcorn (Cardiff University), “Metabolic oxygen consumption: developing a non-invasive MRI biomarker of pharmacological action in the human brain” PI: Richard Wise , Co-Is: K Murphy, JE Hall Total value: £49,436
2013-2014	Wellcome ISSF (Cardiff University), “Elucidating functional brain imaging biomarkers for risk genes implicated in Alzheimer’s disease” PI: Kim Graham, Co-Is: Richard Wise, Andrew Lawrence, Julie Williams, Valerie O'Donnell, Simon Jones. Total value: £68,000
2013- 2015	National Institute for Academic Anaesthesia (Association of Anaesthetists of Great Britain and Northern Ireland), “Visual gamma responses during sedation; comparing the mechanisms of action of GABAergic and non GABAergic sedatives” PI: Neeraj Saxena, Co-Is: JE Hall, RG Wise, SD Muthukumaraswamy, KD Singh Total value: £15,000
2012-2014	IPMCN & MRCCNGG, Cardiff University “Promoting and imaging functional recovery in multiple sclerosis” Applicants: Dr V Tomassini, Prof N Robertson, Prof Derek Jones, Prof Richard Wise. Total value: £5,000
2012-2014	NMHRI Seed corn, Cardiff University “Relating brain damage to brain functional reorganization and clinical disability in Neuromyelitis Optica” Applicants: Dr V Tomassini, Prof N Robertson, Prof Derek Jones, Prof Richard Wise Totale: £5,000
2009 - 2014	Arthritis Research Campaign, Cardiff Institute of Biomechanics and Bioengineering Research (CIBER) – Centre establishment grant. Applicant: Prof Victor Duance, Co-applicant: Richard Wise and others. Totale £2,500,000

2009-2015	<p>Cardiff University President's Scholarships PhD programme "CRANIUM Cardiff Research into Advanced Neuroimaging Methods." 6 PhD studentships over 3 years' intake. Applicants: Richard Wise, Derek Jones, Krish Singh, Frank Sengpiel Totale: £420,000</p>
2012-2013	<p>SARTRE Bio-E "Developing quantitative fMRI: a tool to measure cerebrovascular function in the human brainstem" Applicants: RG Wise (PI), JE Hall, J Paton, E Hart Totale: £25,000</p>
2013	<p>EPSRC Bridging the Gaps Applicants: Prof Richard Wise, Dr Yulia Hicks Totale: £3,000 approx</p>
2010-2012	<p>Waterloo Foundation "Advanced neuroimaging in BECCTS." Applicants: Prof D Jones, Prof K Singh, Prof RG Wise, Dr D McGonigle, Dr S Muthukumaswamy Totale: £110,000</p>
2010-2012	<p>Welsh Assembly Government: Academic Expertise for Business (A4B), Collaborative Industrial Research Projects (CIRP) "The Integrated Brain Imaging and Stimulation Project (IBIS)" Applicants: Dr Chris Chambers, Prof Krish Singh, Prof Richard Wise, Prof Derek Jones, Prof David Jiles. Totale: £194,000</p>
2010-2012	<p>Marie Curie (FP7) European Fellowship "Routes to Arousal: a simultaneous EEG-fMRI investigation of pharmacological sedation in humans" Fellow to which grant awarded: Dr Tommaso Gili. Grant holder at host lab (CUBRIC): Richard Wise Totale: €181,000</p>
2010-2012	<p>Alzheimer's Research Trust Cerebral small vessel disease, blunted perfusion responses and adaptation to early Alzheimer's disease. Applicant: Dr Mike O'Sullivan, Co-applicant: Richard Wise, Derek Jones, Tony Bayer. Totale £26,950</p>
2010-2015	<p>Wellcome Trust Career Development Fellowship "Quantifying vascular influences on neurovascular coupling with fMRI" Fellow to which grant awarded: Dr Kevin Murphy. Sponsor at host lab (CUBRIC): Richard Wise Totale: £689,000</p>
2009 - 2011	<p>National Institute for Academic Anaesthesia UK. "Imaging neural responses to pain-related stimuli in patients with chronic non malignant pain before and after a pain management programme." Applicant: Prof Judith Hall, Co-Applicant: Richard Wise Totale: £50,000</p>
2009-2011	<p>European Society of Anaesthesiologists. "A combined neurophysiological and haemodynamic investigation of changes in functional connectivity in the human brain during sedation." Applicant: Prof Judith Hall, Co-Applicant: Richard Wise Totale: £10,000</p>

2011-2012	EPSRC, (EP/I01487X/1), “Improving EEG reading of brain states for clinical applications using a data-driven joint model of FMRI and EEG” PI: Richard Wise, Cols: Yulia Hicks, Cyril Charron, £132,000
2005 - 2010	MRC Career Development Award, “Pharmacological neuroimaging: assessing FMRI as a biomarker of changes in neuronal activity using combined EEG and FMRI.” (Oxford University then transferred to Cardiff University) Principal investigator (Fellow): Richard Wise. £472,864 , including fellow’s and RA’s salary. Ref: G120/969
2009	Cardiff University International Collaboration Award with Dr Tommaso Gili, Dept Physics, University of Rome La Sapienza. Applicant: Richard Wise Totale £3000
2008 - 2010	Pfizer Ltd, “Optimising pharmacological FMRI for drug development” (Cardiff University). Principal investigator: Richard Wise Totale, £257,000 , including 2 years of senior post-doctoral support
2010-2011	Pfizer Ltd, “Pharmacological modulation of free-running EEG”. PI Richard Wise. £61,000
2011	Wellcome Trust Value in People award for 9 months' salary for Dr Ashley Harris, PI Richard Wise £35,000
2008 - 2010	Natural Sciences and Engineering Research Council of Canada “Characterising vascular responsiveness using quantitative functional magnetic resonance imaging.” Fellow to which grant awarded: Dr Ashley Harris . Supervisor at host lab (CUBRIC): Richard Wise Value in salary to Dr Harris: \$80,000CAN
2011 - 2013	Natural Sciences and Engineering Research Council of Canada Banting Fellowship awarded to Dr Ashley Harris. Supervisor at host lab (CUBRIC): Richard Wise. 2 years' salary to Dr Harris.
2008 - 2009	Wales Institute for Cognitive Neuroscience (Cardiff University) 1) “Imaging neural responses to pain-related stimuli in chronic pain patients.” RG Wise, A Taylor, R Buck, A Varnava, O Hughes (Cardiff and Swansea). £17,500 2) “Neural mechanisms of response reversal; probabilistic versus assured contingencies.” Sub grant held by RG Wise, S Van Goozen, J Savage. £5,000. 3) “Mapping the climbing fibre system in humans” J Diedrichsen, RG Wise, D McGonigle. £13,000. Cardiff and Bangor Universities.
2006-2008	International Anaesthesia Research Society (Oxford University), “Investigation of pharmacological modulation of respiratory control using FMRI.” Principal Investigator: Dr Kyle Pattinson. R Wise (co-applicant). Totale \$79,632 (£45,000).
2005 - 2008	The Association of Anaesthetists of Great Britain and Ireland (Oxford University). “Imaging the neural correlates of respiratory control” Grant-holder: Dr Jaideep Pandit, Nuffield Dept Anaesthetics. Co-investigators: Dr Richard Wise and Dr Kyle Pattinson. £23,760 in research costs.
2006 - 2007	Pfizer Ltd (Oxford University). “Assessing measures of brain activity in pharmacological FMRI.” Principal investigator: Dr Richard Wise. £70,000 to fund a post-doctoral scientist for one year.
2006 - 2008	GlaxoSmithKline (Oxford University). “Developing pharmacokinetic / pharmacodynamic measures in human FMRI.” Principal investigator: Prof Irene

	Tracey. Co-Investigator: Dr Richard Wise. Approx £200,000 . The grant funded a post-doctoral scientist for two years (Dr Ricardo Governo).
2005 - 2006	Merck Sharp & Dohme (Oxford University), "An Investigation of Drug Effects on Anxiety Using Brain Imaging." Principal investigator: Prof Irene Tracey. Co-investigator Richard Wise. £102,800 .
2005	Wellcome Trust Value in People Award (Oxford University). "Developing pharmacological neuroimaging." Principal investigator: Richard Wise. £16,100 awarded by competition within the University of Oxford.
2002 - 2005	Wellcome Trust Advanced Training Fellowship (Oxford University). "Developing FMRI of pharmacological analgesia." Principal investigator and Fellow: Richard Wise. £200,000
2002	Dr Hadwen Trust (Oxford University). Human pain imaging. Principal investigator: Irene Tracey. Richard Wise was the named post-doc. £118,000
2000 - 2002	GlaxoSmithKline (Oxford University). Human pharmacological FMRI. Principal investigator: Irene Tracey. Richard Wise was the named post-doc. £100,000 .
1994 - 1998	Wellcome Trust PhD Studentship in Mathematical Biology (Cambridge University). "MRI studies of cardiovascular function" Named student: Richard Wise. Approx £70,000
1994	British Heart Foundation PhD Studentship (Cambridge University). Named student: Richard Wise. Approx £50,000 (transferred to another PhD student).

INVITED PRESENTATIONS (SELECTED)

- June 2023. Annual Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Sunrise educational session: I Got the Grant; Now, What? How To Do Everything with Rising Costs & 80% of the Budget
- December 2022. VI Congresso Nazionale AINR di Neuroradiologia Funzionale, Padova. "Measurement of cerebral oxygen consumption using MRI"
- July 2021. Imaging Cerebral Physiology Webinar, "Calibrated fMRI for mapping OEF and CMRO₂"
- May 2021. University of Lisbon, "A BOLD approach to understanding human brain function is not enough: multi parametric MRI of brain physiology"
- March 2021. University of Padova, "fMRI-based quantitative mapping of human brain cerebrovascular and metabolic function"
- Feb 2020. Institute of Neuroscience and Medicine, Medical Imaging Physics, Forschungszentrum Juelich GmbH. "fMRI-based quantitative mapping of human brain cerebrovascular and metabolic function"
- Dec 2019. GLiMR (Glioma MR Imaging 2.0 COST action), Malta. "University of Chieti-Pescara, Italy & Cardiff University Brain Research Imaging Centre (CUBRIC), UK"
- Nov 2019. University of Pennsylvania. "fMRI-based quantitative mapping of human brain cerebrovascular and metabolic function"
- Nov 2019. Mt. Sinaï Hospital New York. "Quantitative fMRI in neuro-pharmacological research"
- Oct 2019. University of Calgary advanced imaging seminar. "fMRI: tools for quantifying brain oxygen metabolism and cerebral vascular function"
- Oct 2019. University of Calgary Biomedical Engineering Conference, Canada. "Magnetic Resonance Imaging, it just keeps on giving ... or ... half a career in interdisciplinary research"
- Oct 2019. Bill and Melinda Gates Foundation Grand Challenges, Addis Ababa. "Neuroimaging methods for measuring cerebral metabolism and physiology"
- Oct 2019. British Society of Neuroradiology, Cardiff. "MRI of vascular and metabolic function: opportunities at 3T and 7T"
- Sept 2019. Università di Roma (La Sapienza). "Multi-parametric MRI of brain physiology: Developing fMRI to quantify brain function"
- Sept 2019. GIDRM annual meeting, L'Aquila. "Quantitative mapping of human brain cerebrovascular and metabolic function"
- July 2019. British Association of Psychopharmacology, Manchester. "Challenges and opportunities of fMRI in translational pharmacological research"
- June 2019. UK7T London meeting. "Cardiff 7T experiences: CUBRIC"
- May 2019. ITAB, DNISC, University of Chieti-Pescara. GIDRM meeting. "Multi-parametric MRI of brain physiology: developing fMRI to quantify brain function"
- April 2018. Erice, Italy. International School on Magnetic Resonance and Brain Function. Multi-parametric MR Imaging of the physiological state of *human* brain tissue: cerebrovascular and metabolic function
- April 2018. Bristol University, Dementia research showcase. The potential of Cardiff University Brain Research Imaging Centre (CUBRIC) for dementia research
- Feb 2018. Hvidovre Hospital, Center for Functional and Diagnostic Imaging and Research, Copenhagen. Multi-parametric MR Imaging of the physiological state of *human* brain tissue.
- March 2018. Cardiff Brain Cancer Workshop: The potential for brain tumour research at CUBRIC
- Dec 2017. School of Brain Cells & Circuits "Camillo Golgi" (Erice, Sicily). Multi-parametric MR Imaging of the physiological state of *human* brain tissue
- Sept 2017. ITAB, University of Chieti, Italy. Multi-parametric MRI of brain physiology: developing fMRI to quantify brain function
- Dec 2016. Cardiff BRAIN Connections meeting: fMRI in neurosurgical planning
- Sept 2016. UK 7T inaugural symposium (Leeds University): Imaging cerebral vascular and metabolic function at 7T
- May 2016. Erice, Italy. International School on Magnetic Resonance and Brain Function: Quantifying Cerebrovascular Function – cerebral arterial compliance
- Feb 2016. Cardiff Life Sciences Hub Neurosciences Workshop: Integrated Imaging Solutions

- Jan 2016. Cardiff and Vale UHB: CUBRIC-NHS 2020 Vision
- Jan 2016. Velindre Cancer Centre: Opportunities for oncology research at CUBRIC
- Nov 2015. Cardiff University, GW4 Imaging symposium: Introduction to CUBRIC MRI
- July 2015. Leiden University Medical Centre: Mapping brain oxygen metabolism using calibrated fMRI approaches: principles, practice and models.
- April 2015. Edinburgh Meeting of the British Neuroscience Association: Quantitative mapping of oxygen metabolism and oxygen extraction fraction by MRI.
- April 2015. Bristol University Summer School. Physiology of BOLD functional MRI
- Mar 2015. Catholic University of Rome: New magnetic resonance imaging tools to quantify vascular and metabolic function in the human brain.
- Dec 2015. Leipzig Max Planck Institute, Imaging Cerebral Physiology Meeting: mapping baseline oxygen metabolism using dual (O₂ and CO₂) calibrated fMRI: principles, practice and models.
- Nov 2015. Cardiff, Annual Scientific Meeting of the Society for Intravenous Anaesthesia: Pharmacological functional neuroimaging: why and how?
- June 2014. Hamburg. Annual Meeting of the Organisation for Human Brain Mapping. Symposium: A new paradigm for studying drug effects: Calibrated fMRI and Resting State Connectivity. Pharmacological fMRI and methodological concerns.
- May 2014. Erice, Italy. International School on Magnetic Resonance and Brain Function. Quantitative fMRI: mapping the rate of cerebral metabolic oxygen consumption in the human brain
- Apr 2014. Bristol University Summer School. Physiology of BOLD functional MRI
- February 2014. Paris. Charcot Foundation, 9th Annual MRI Workshop of ARSEP. Imaging visuomotor rehabilitation in Multiple Sclerosis
- September 2013. Lisbon. University of Lisbon, Dept Engineering. Quantitative FMRI: mapping the rate of cerebral metabolic oxygen consumption
- July 2013. Summer School of Neuroscience, University of Catania. Roles of neuroimaging in central nervous system drug discovery.
- June 2013. Santa Lucia Foundation, Rome. Quantification of Cerebral Physiology with MR.
- May 2013. Nottingham University. Probing cerebral physiology using respiratory challenges and (F)MRI.
- May 2013. Pain Therapeutics Workshop, London. Using functional neuroimaging to understand drug effects in the human brain.
- April 2013. SARTRE Bristol. Developing quantitative FMRI as a tool to measure cerebrovascular function in the human brainstem.
- Mar 2013. Bristol University. Physiology of BOLD functional MRI
- Jan 2013. Birmingham University. Quantifying brain function using fMRI: more than a BOLD approach

TEACHING ACTIVITY

Cardiff University

- 2017-2019 Responsible for Module MSc PST513: Neuroimaging experimental design and analysis
- 2013-2017 Course Director (Master): MSc in Neuroimaging Methods and Applications

University of Chieti-Pescara

- From 2019, (FIS/07), Medical Physics (Modern Physics) for Medical Degree, 1 CFU
- From 2020, (FIS/07), Physics of Instrumentation for the Degree in Radiography, 2 CFU
- From 2020, (FIS/07), Physics (General Physics 1: mechanics) for the Degree course Biomedical Engineering, 6 CFU
- From 2020, (FIS/07), Functional MRI, Masters in Neuroimaging: from Methods to Neuroscience Applications [32h]

SCIENTIFIC PUBLICATIONS (PEER REVIEWED)**H-INDEX = 52 (SCOPUS), 11500 CITATIONS (APPROX.)**

1. Chiarelli AM, Germuska M, Di Censo D, Driver I, Caligiuri ME, Thomas H, Manolova S, Chandler HL, Caporale A, Biondetti E, Wise RG. Multiparametric mapping of brain oxygen consumption with resting state calibrated functional MRI. *Neuroimage*. 2025 Oct 15;320:121465. doi: 10.1016/j.neuroimage.2025.121465. Epub 2025 Sep 18. PMID: 40975145.
2. Bliakharskaia E, Chiarelli AM, Patitucci E, Carriero M, Di Censo D, Biondetti E, Del Gratta C, Capuani S, Palombo M, Tomassini V, Wise RG, Caporale A. Exploring the contribution of gray matter microstructure to R1 contrast via multi-compartment diffusion modelling in the healthy brain. *Neuroimage*. 2025 Oct 15;320:121466. doi: 10.1016/j.neuroimage.2025.121466. Epub 2025 Sep 16. PMID: 40967292.
3. Chandler HL, Germuska M, Lancaster TM, Xanthe C, O'leary C, Stirk S, Lu H, Murphy K, Metzler-Baddeley C, Wise RG, Duckers J. Imaging brain vascular function in Cystic Fibrosis: an MRI study of cerebral blood flow and brain oxygenation. *J Cyst Fibros*. 2025 Aug 30:S1569-1993(25)01569-3. doi: 10.1016/j.jcf.2025.08.010. Epub ahead of print. PMID: 40885605.
4. Labounek R, Bondy MT, Paulson AL, Bédard S, Abramovic M, Alonso-Ortiz E, Atcheson NT, Barlow LR, Barry RL, Barth M, Battiston M, Büchel C, Budde MD, Callot V, Combes A, De Leener B, Descoteaux M, de Sousa PL, Dostál M, Doyon J, Dvorak AV, Eippert F, Epperson KR, Epperson KS, Freund P, Finsterbusch J, Foias A, Fratini M, Fukunaga I, Wheeler-Kingshott CAMG, Germani G, Gilbert G, Giove F, Grussu F, Hagiwara A, Henry PG, Horák T, Hori M, Joers JM, Kamiya K, Karbasforoushan H, Keřkovský M, Khatibi A, Kim JW, Kinany N, Kitzler H, Kolind S, Kong Y, Kudlička P, Kuntke P, Kurniawan ND, Kusmia S, Laganà MM, Laule C, Law CSW, Leutritz T, Liu Y, Llufriu S, Mackey S, Martin AR, Martinez-Heras E, Mattera L, O'Grady KP, Papinutto N, Papp D, Pareto D, Parrish TB, Pichiecchio A, Prados F, Rovira À, Ruitenber MJ, Samson RS, Savini G, Seif M, Seifert AC, Smith AK, Smith SA, Smith ZA, Solana E, Suzuki Y, Tackley GW, Tinnermann A, Valošek J, Van De Ville D, Yiannakas MC, Weber li KA, Weiskopf N, Wise RG, Wyss PO, Xu J, Cohen-Adad J, Lenglet C, Nestrašil I. Body size and intracranial volume interact with the structure of the central nervous system: A multi-center in vivo neuroimaging study. *Imaging Neurosci (Camb)*. 2025 May 7;3:imag_a_00559. doi: 10.1162/imag_a_00559. PMID: 40800833; PMCID: PMC12319740.
5. Driver ID, Chiarelli AM, Chandler HL, Thomas H, Manolova S, Lu H, Wise RG, Germuska M. Breath-hold calibrated fMRI mapping of absolute cerebral metabolic rate of oxygen metabolism (CMRO₂): An assessment of the accuracy and repeatability in a healthy adult population. *Imaging Neurosci (Camb)*. 2024 Sep 23;2:imag-2-00298. doi: 10.1162/imag_a_00298. PMID: 40800477; PMCID: PMC7616461.
6. Patitucci E, Di Censo D, Chiarelli AM, Germuska M, Tomassini V, Wise RG. Evidence for a sustained cerebrovascular response following motor practice. *Imaging Neurosci (Camb)*. 2024 Aug 29;2:imag-2-00282. doi: 10.1162/imag_a_00282. PMID: 40800452; PMCID: PMC12290683.
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