

Medical Imaging Reform Service



Adj. Assoc. Prof. Noelle Cridland
Acting Executive Director
Medical Imaging Reform



Prof. Alan Coulthard
Director, Research



Dr John Clouston
Director, Medical Imaging



Vanessa Clarke
Director, Medical Imaging
Services

Overview

The Department of Medical Imaging actively participates in departmental, interdepartmental and multi-site collaborative research projects. The Department of Medical Imaging Research Office (DMIRO), under the directorship of Professor Alan Coulthard, has been created to provide support for these research projects, and to foster new, mutually beneficial research partnerships.

Research personnel include a Research Development Officer and Research Medical Officer, and in 2012 the DMIRO expanded to include a Research Project Officer position to manage research contracts, revenue generation and research collaborations. Over the last year, DMIRO has expanded its role to include provision of research support to residents and registrars, who are now required by the Royal Australian and New Zealand College of Radiologists to complete two research projects to fulfil their specialty training assessment requirements.

Key achievements over the past year include establishment of 31 new service-based research projects, for which the department provides imaging services and administrative support, bringing this total to 70 active studies. In addition, nine new departmental projects were established, in which residents have become integrally involved, providing them an environment to develop key research skills required for their future progression to the Queensland Radiology Training Program.

Medical Imaging research pursuits have culminated in 11 publications and 11 presentations at national conferences, by consultants, registrars and radiography staff. The future of research in the service line is positive, with a growing involvement in research projects by consultants and registrars, as well as nursing.

Executive and directing staff

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Research staff

Name	Qualifications	Position	Interests/specialties
Prof. Alan Coulthard	MBBS, BMedSci, FRCS, FRCR FRANZCR,	Director, Research; Professor, Neuroradiology and Head, UQ Discipline of Medical Imaging	neuroradiology, neuro- intervention
Dr John Clouston	MBBS, FRANZCR	Director, Medical Imaging	interventional radiology
Assoc. Prof. Karin Steinke	MD, MS, PD, FRANZCR	Staff Specialist	thoracic and breast imaging and intervention
Assoc. Prof. Peter Scally	MBBS, FRANZCR	Staff Specialist	medical student education, quality management in radiology, software development to teach critical analysis
Dr Paul Tesar	MBBS, FRANZCR	Staff Specialist	abdominal imaging
Dr Nick Kienzle	MBBS, FRANZCR	Staff Specialist	interventional radiology and abdominal imaging
Dr Craig Hacking	BSc (Biomed), MBBS, FRANZCR	Staff Specialist	imaging and cancer staging
Dr Liam Caffery	BIT, DipAppSci (DiagRad), PhD	Senior Systems Radiographer	picture archiving and communication systems, teleradiology
Dr Nicholas Brown	BSc, MBBS, MPhil, GCSpMed	Radiology Registrar	MSK, interventional radiology, nuclear medicine, sports medicine
Dr Michael Curley	BAppSc, MBBS	Radiology Registrar	neuroradiology research
Dr Justin Oughton	BSc (Hons), MBBS	Research Medical Officer	neuroradiology research, research development
Dr Janelle Thomas	BSc (Hons), PhD	Research Development Officer	research development
Karen Dobeli	MAppSci (MedRadSci), FIR	Senior Radiographer	computed tomography
Marnie Rawle	BAppSci (MedRadSci), MHealthSci	Radiographer	teleradiology
Greg Edwards	BAppSci (Med Imaging)	Radiographer	theatre

Supervised post-graduate students

Name	Current studies	Research topic
Eastgate, N.	Masters	Data security
Oughton, J.	PhD	The relationship of arterial stiffness and resistance to white matter hyperintensity distributions in aging women: The LAW blood flow and brain study
Nguyen, G.	PhD	Perfusion computed tomography in the evaluation of blood-brain barrier disruption in acute ischaemic stroke

Awards and achievements

Award	Event	Name
Radiology Resources Branch of Origin Registrar Research Prize	RANZCR Annual Scientific Meeting	Brown, N.

Research grants

Investigators	Research title	Granting body	Amount awarded	Years of funding
Scott J	Developing research in radiology	RBWH Private Practice Trust Fund (PPTF)	\$80,000	2010-2012

Research grants

Investigators	Research title	Granting body	Amount awarded	Years of funding
Rose, S., Crozier, S., Salvado, O., Coulthard, A., Thomas, P., and Fay M.	Improving assessment of brain tumour treatment outcome using 18F-FDOPA PET MRI	NHMRC	\$637,125	2010-2012
Investigators from multiple disciplines including Coulthard, A., Senior investigators: Rose, S., Macfarlane, D., Slaughter, R.	ACRF Molecular Oncology Translational Imaging Facility	ACRF	\$2,000,000	2012
Taylor, B., van der Mei, I., Lucas, R., Blizzard, C., Coulthard, A., Broadley, S., Williams, D., Shaw, C.	The role of environmental and genetic factors in progression of multiple sclerosis	NHMRC	\$945,084	2012
Clouston, J., Coulthard, A.	Funding of Research Development Officer position	Covidien	\$190,942	2012-2015
Clouston, J., Coulthard, A.	Funding of Research Project Officer position	RBWH PPTF	\$185,957	2012-2014

Publications

Barwood CHS, Murdoch BE, Whelan BM, Lloyd D, Riek S, O'Sullivan JD, Coulthard A, Wong A. Improved receptive and expressive language abilities in non-fluent aphasic stroke patients after application of rTMS: An open protocol case series. *Brain Stimul.* 2012;5(3):274-86.

Curley M, Josey L, Lucas R, Dear K, Taylor BV, Coulthard A. Adherence to MRI protocol consensus guidelines in multiple sclerosis: An Australian multi-centre study. *Journal of Medical Imaging and Radiation Oncology.* 2012;56(6):594-8.

Fielding DI, Chia C, Nguyen P, Bashirzadeh F, Hundloe J, Brown IG, Steinke K. Prospective randomised trial of endobronchial ultrasound-guide sheath versus computed tomography-guided percutaneous core biopsies for peripheral lung lesions. *Internal Medicine Journal.* 2012;42(8):894-900.

Josey L, Curley M, Jafari Mousavi F, Taylor BV, Lucas R, Coulthard A. Imaging and diagnostic criteria for Multiple Sclerosis: Are we there yet? *Journal of Medical Imaging and Radiation Oncology.* 2012;56(6):588-93.

Keogh MJ, Jonas P, Coulthard A, Chinnery PF, Burn J. Neuroferritinopathy: A new inborn error of iron metabolism. *Neurogenetics.* 2012;13(1):93-6.

Patterson IYL, Robertus LM, Gwynne RA, Gardiner RA. Genitourinary tuberculosis in Australia and New Zealand. *BJU International.* 2012;109 Suppl 3:27-30.

Ponsonby AL, Lucas RM, van der Mei IA, Dear K, Valery PC, Pender MP, Taylor BV, Kilpatrick TJ, Coulthard A, Chapman C, Williams D, McMichael AJ, Dwyer T. Offspring number, pregnancy, and risk of a first clinical demyelinating event: The AusImmune Study. *Neurology.* 2012;78(12):867-74.

Rose S, Fay M, Thomas P, Bourgeat P, Dowson N, Salvado O, Gal Y, Coulthard A, Crozier S. Correlation of MRI-derived apparent diffusion coefficients in newly diagnosed gliomas with [18F]-Fluoro-L-Dopa PET: What are we really measuring with minimum ADC? *Am J Neuroradiol.* Oct 18: Epub ahead of print.

Rose S, Pannek K, Bell C, Baumann F, Hutchinson N, Coulthard A, McCombe P, Henderson R. Direct evidence of intra- and interhemispheric corticomotor network degeneration in amyotrophic lateral sclerosis: an automated MRI structural connectivity study. *Neuroimage.* 2012;59(3):2661-9.

Rose S, Rowland T, Pannek K, Baumann F, Coulthard A, McCombe P, Henderson R. Structural hemispheric asymmetries in the human precentral gyrus hand representation. *Neuroscience.* 2012;17(210):211-21.

Salamonsen M, Ellis S, Paul E, Steinke K, Fielding D. Thoracic ultrasound demonstrates variable location of the intercostal artery. *Respiration.* 2012;83(4):323-329.

Shulman R, Chai E. Coronal plane obliquity of the opening wedge osteotomy and its effect on opening gap distance: A simple mathematical and schematic assessment. *Techniques in knee surgery.* 2012;11(4).

