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AUS MRinRT Meeting.

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TUESDAY

12:30		Lunch	40
13:10		Collaborators Meeting	90
14:40		Afternoon Tea	20
	MRI Biomarkers 1		
15:00	Uulke van der Heide	The promise and challenges of in-room functional imaging for MRI-Linac radiotherapy	40
	Shivani Kumar	Radiation induced lung injury comparison between MRI and CT during and post treatment	12
	Lois Holloway	Multiparametric serial magnetic resonance imaging assessment of gross tumour volume and hippocampal changes over the course of adjuvant brain cancer radiotherapy	12
	Trang Pham	MRI tumour heterogeneity analysis for prediction of chemoradiotherapy response and disease free survival in rectal cancer	12
	Hilary Byrne	MRI-Linac radio-enhancement with theranostic gadolinium-based nanoparticles: pre-clinical evaluation in the Australian MRI-Linac	12
	James Korte	Auto-contouring head and neck cancer patient organs at risk on T2 weighted magnetic resonance imaging	12
	Urszula Jelen	Dosimetry for the first live irradiation on the Australian MRI-Linac	12
17:00		Finish	
	Dinner	Self-directed, Hastings Street	

WEDNESDAY

	Novel Treatment Techniques			
8:30	Simon Puttick		Developing peptide receptor radionuclide therapies for personalised cancer therapy	40
	Alexandra Berlangieri		A scoping review of MRI guided breast radiotherapy	12
	Laura O'Connor		MARVEL: MRI only planning for anal canal, rectum, cervix and endometrium, radiation therapy treatments	12
	Peter Greer		A multi-centre prospective study for implementation of an MRI-only prostate treatment planning workflow	12
	Matt Richardson		Visualising the urethra for prostate radiotherapy	12
	Laura O'Connor		A preliminary evaluation of a commercially available synthetic CT generation method for prostate cancer	12
	Suzanne Lydiard		MR-Guided stereotactic arrhythmic radioblation (STAR) for atrial fibrillation: Preliminary imaging finding in AF patients	12
10:30			Morning Tea	20
	Engineering 1			
10:50	Uulke van der Heide		The clinical implementation of MRI-Linac radiotherapy: the Netherlands Cancer Institute Experience	40
	Brad Oborn		MRI guided protons	20
	Amy Walker		Development of an MRI distortion assessment tool (MR-DAT)	12
	Jarryd Buckley		Pelvic organ motion under horizontal rotation – towards gantry free therapy: Initial results	12
	Paul Liu		Real-time target tracking for the Australian MRI-Linac	12
	Terry Perkins		Comparison of 4D-CT and 4D-MRI for tumour motion measurement: A phantom study	12
	Yves De Deene		4D Radiation Dosimetry with MRI Polymer Gel Phantoms: Preliminary Results	12
12:50			Lunch	




	Clinical Implementation in Australia			
13:30	Olga Green		The clinical implementation of MRI-Linac Radiotherapy: The Washington University Experience	40
	Kristie Harrison		Update on Genesis Care MRL	12
	Farshad Foroudi		TROG MRI in RT Interest Group	12
	Trang Pham		MANTRA and Liver	12
	Kate Skehan/ Robba Rai		Consensus on Training and Safety for Radiation Oncology staff	40
15:30			Afternoon Tea	
	MRI Biomarkers 2			
15:45	Robba Rai		Multicentre evaluation of radiomic features in MRI	12
	Nathan Hearn		Feasibility of integrating routine diagnostic functional magnetic resonance imaging for novel applications in head and neck radiation therapy	12
	Monchai Phonlakrai		Quantification of liver function using MRI-based functional parameters for radiation-associated injury following radiotherapy: a feasibility study	12
	Neda Gholizadeh		Evaluation of glucose chemical exchange saturation transfer (gluco-CEST) imaging at 3T	12
	Kate Skehan		PET/CT vs DWI MRI for Oesophageal GTV Delineation – A Pilot comparative study	12
	Neda Gholizadeh		Localisation of central gland prostate cancer using multiparametric magnetic resonance imaging (mp-MRI)	12
	Hongfu Sun		Differentiation hemorrhage, calcification and edema of glioblastoma using quantitative susceptibility mapping (QSM)	12
	Trang Pham		Ultra-high field MRI aided biomarker discovery in rectal cancer	12
17:30			Finish	
19:00			Group Conference Dinner – Hawaiian Themed	

THURSDAY

	Engineering 2			
9:00	John Baines		The elekta unity MR-Linac install at Townsville hospital	12
	Amy Walker		Dosimetric impact of setup and geometric distortion on MRI-based planning for Lung Cancer Radiotherapy	12
	ShanShan Shan		Efficiency improvement for gradient nonlinearity (GNL) correction with non-uniform faster fourier transform (NUFFT)	12
	Mingyan Li		The design of a universal toros radiofrequency (RF) coil array for the Australian MRI-Linac System	12
	Xinwen Liu		Accelerating region-of-interest image reconstruction via deep learning for MR Guided Radiotherapy	12
	Elizabeth Patterson		Off axis surface dosimetry on the Australian MRI-Linac	12
	Adam McNeilly		Investigations of an Epid based 3D dose reconstruction method for applications in MR-Linac radiotherapy	12
10:30			Morning Tea	20
	Quality Assurance			
10:50	Olga Green		The MRI-Linac adaptive radiotherapy process: lessons learned and clinical implications	40
	Urszula Jelen		Dosimetric commissioning of the Australian MRI-Linac status update	12
	Rhonda Brown		Audit development for MRI-Linacs	12
	Jae Choi		Patient specific quality assurance of synthetic CT using bulk density method in MRI-only workflow for prostate radiation therapy	12
	Georgia Barjaktarovic		The Townsville cancer centre's preparation and implementation of the Elekta Unity MRI-Linac	12
	Jarrad Begg		Direct measurement of the magnetic field correlation factor, K_b , for a Roos Chamber on an inline MRI-Linac	12
	Yu Feng Wang		Quality assurance of multiparametric MRI protocol for multi-centre prostate cancer sequential imaging clinical trial	12

12:50			Lunch	40
13:30	TROG MRI Group		Optional Attendance	60
14:30			Finish	

GUEST SPEAKERS

	<p>Olga Green, PhD is an assistant professor of radiation oncology and Associate Director of the Medical Physics Residency Program. Professor Green joined the faculty in 2011. She earned a PhD in Experimental Nuclear Physics in 2008 from Washington University in St. Louis and completed her residency in medical physics, CAMPEP accredited, at Washington University School of Medicine in 2011. She is certified in Therapeutic Radiological Physics by the American Board of Radiology. Dr. Green's clinical work and research focuses on magnetic resonance image-guided radiation therapy. She is the lead authorized medical physicist for the first-in-the world MR-IGRT system.</p> <p>Olga's visit and attendance at our meeting is sponsored by Elekta.</p>
	<p>Dr Simon Puttick's research is centered around the development of advanced therapies for brain cancers guided by medical imaging technologies. His projects include the development of theranostics based on engineered antibodies, the development of MRI and PET imaging acquisition schemes that highlight physiological heterogeneity in brain tumours to predict treatment efficacy, the development of actively triggered drug releasing implants for brain cancers and the development of comparative neuro-oncology trials for more effective translation of promising therapies to the clinic.</p> <p>Dr Simon Puttick completed his PhD under the supervision of Professor Peter Licence at the University of Nottingham in July 2012. Following his PhD he moved to the Wolfson Brain Imaging Centre at the University of Cambridge as a Research Fellow under the supervision of Professor A. Jennifer Morton where his research was focussed on the development of MRI biomarkers of neural degeneration in Huntingtons disease. He moved to the AIBN in January 2013 as a Research Fellow in Professor Andrew Whittakers group focussed on the development of theranostics for brain cancers. Dr Puttick is currently employed as an AIBN-CSIRO Research Fellow working within Professor Whittakers group and the CSIRO Probing Biosystems Future Science Platform where he leads a program of research focussed on the development of advanced therapies for brain cancers.</p>
	<p>Uulke van der Heide received his PhD degree (cum laude) in the field of molecular biophysics from the Utrecht University in 1993. He subsequently worked as a post-doc at the physiology departments of the University Medical Center in Utrecht and at the University of Pennsylvania in Philadelphia, US, on the molecular mechanism of motor proteins.</p> <p>In 1999 he moved to the field of radiation oncology, as a resident medical physicist at the University Medical Center in Utrecht. He got his license in 2003. Between 2003 and 2011 he worked as a medical physicist and researcher in the same department, working on MRI-guided radiotherapy, focussing on prostate cancer. Together with Marco van Vulpen he initiated the phase III FLAME trial for focal boosting of prostate cancer.</p> <p>In 2011 he moved to the Netherlands Cancer Institute as a medical physicist and group leader, working on MRI-guided radiotherapy. In this capacity he is project leader of the MR-Linac project. His research focusses on quantitative MRI techniques for tumor characterization and response monitoring of radiotherapy. In August 2015 he was appointed professor of imaging technology in radiation oncology at the Leiden University Medical Center.</p> <p>Uulke's visit and attendance at our meeting is sponsored by Device Technologies.</p>

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