## DAY 1 — Wednesday 2<sup>nd</sup> May 2018

	08:00 - 10:00		Registration	
	Prestonfield	08:30 – 09:30	Cardiac imaging basics for the non-specialist	
			Chair: Dr Katharine Vedwan	
			o8:30   Cardiac CT basics/for the non-specialist	Dr Alastair Moss
			o8:50   Cardiac CMR basics/for the non-specialist	Dr Thomas Treibel
			09:10   Nuclear cardiac imaging basics/for the non-specialist	Dr Matthew Balerdi

	10:00 - 10:20	Welcome: Professor David Newby, Dr Giles Roditi, Professor James Moon, D	r Kshama Wechalekar	
		Session 1: The year in multimodality cardiovascular imag Chairs: Professor David Newby, Professor James Moon, Dr		
		10:20   The year in cardiac imaging - CT	Dr Gareth Morgan-Hughes	
Pentland	10:20 - 11:50	10:40   The year in cardiac imaging - MRI	Professor Gerry McCann	
Ę		11:00   The year in cardiac imaging - Nuclear	Dr Kshama Wechalekar	
Le l		11:20   The year in cardiac imaging - Echo	Dr Guy Lloyd	
		11:40   Discussion/questions		
		Session 2: State of the art imaging		
	11:50 - 12:30	Chair: Dr Russell Bull & Professor John Greenwood		
	11.50 - 12.30	11:50   State of the art imaging of anatomy versus function	Dr Andrew Kelion	
		12:10   State-of-the-art imaging in congenital cardiac disease	Dr Simon McGuirk	
		Case Based Learning 1: Basics of ischaemic and coronary	v artery disease	
Prestonfield		Chairs: Dr Mhairi Doris & Dr Prasad Guntur		
bnf	10:00 - 12:30	10:00   Imaging cases - MRI basic	Dr Timothy Fairbairn	
sto	10.00 - 12.30	10:30   Imaging cases - CT basic	Dr Michelle Williams	
Pre		11:00   Imaging cases - nuclear basic	Dr Rebecca Schofield	
		11:30   Imaging cases - MRI and CT basic	Dr Matthias Schmitt	
		12:00   Imaging cases - MRI and nuclear basic	Dr Manish Motwani	
Holyrood	11.30-12.30	Joint BSCI/BSCCT, BSCMR, BNCS Multimodality Imaging Case reports - Part 1 Chairs: TBC		

	Lunch	
12:30 - 13:30	12.30 – 13.30   Industry Lunchtime Symposium: Shire Pharmaceuticals Limited Lunch provided in the Pentland room	Pentland
	13.00   BSCI/BSCCT AGM	Prestonfield



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			Industry Session 1	
		13:30 - 14:00	Chair: Dr Ben Holloway	
			13:30   Industry presentation	GE Healthcare
			13:45   Industry presentation	Heartflow
	σ		Session 3: Multimodality imaging coronary artery disease	e / ischaemic heart disease
	Pentland		Chairs: Dr Michelle Williams, Professor Sven Plein & Professor Eik	e Nagel
	ntl		14:00   Magnetic resonance angiography and plaque analysis -	Professor René Botnar
	Pe		ready for prime time	FIOLESSOL RELIE BOLLIAL
		14:00 – 15:30	14:20   Imaging adipose tissue in cardiovascular disease	Professor Charalambos Antoniades
			14:40   New and old tracers in cardiovascular disease	Professor David Newby
			15:00   High risk atherosclerotic plaques	Dr Pál Maurovich-Horvat
			15:20 Discussion/questions	
			Case based learning 2 - Basics of ischaemic and coronary	vartery disease
		13:30 - 14:30	Chairs: Dr Timothy Fairbairn, Dr William Moody	
			13:30   Imaging cases - CT and nuclear basic	Dr Jim Stirrup
			14:00   Imaging cases basic - Congenital	Dr James Shambrook
			BSCI/BSCCT Young Investigator Award	
			Chairs: TBC	
			14.30   18F-Fluoride and 18F-Fluorodeoxyglucose Positron	
	_		Emission Tomography After Transient	Alex Vesey
	ielc	14:30 – 15:30	Ischemic Attack or Minor Ischemic Stroke	,
	Prestonfield		14.40   Predicting Abdominal Aortic Aneurysm Growth using 18F-Sodium Fluoride PET-CT	Rachael Forsythe
	Pre		14.50   The Detection of Cardiac Amyloidosis using	
			Extracellular Volume Quantification by Computed	Paul Scully
			Tomography	
			15.00   Association between computed tomography features	
			of non-alcoholic fatty liver disease and coronary artery	Jessica Carter
			disease A sub-study of the SCOT-HEART trial	
			15.10   Gender Disparities in Aortic Stenosis: An Optimised Assessment with Contrast-Enhanced Computed Tomography	Timothy Cartlidge
			15.20 Comparing echocardiography and cardiac magnetic	
			resonance measures of ejection fraction: implications for	Daniel Bromage
			HFmRF research	2 amei 21 onnage
	15:	30 – 16:00	Coffee	
	-5.	50 10.00	Moderated electronic poster session in the Marquee	
			Keynote Lecture 1	
		16:00 – 17:00	Chair: Professor Stefan Neubauer	
		10.00 17.00	16:00   Multimodality imaging in cardiovascular disease	Professor Marcelo di Carli
			16:45   Questions/discussion	
	Pentland		Debate:	
	Itla		This house believes that assessment of atherosclerotic plant.	aque is more important than
	Per		assessment of perfusion	
		17:00 – 18:00		
		10.00	Chairs: Dr Andrew Kelion & Dr Gareth Morgan-Hughes	
			17:00   For	Dr Marc Dweck
			17:20   Against	Professor Eike Nagel
			17:40   Rebuttal	

18:00

Day 1 Close



### DAY 2 — Thursday 3<sup>rd</sup> May 2018

07:00 – 08:00		2	Early Morning Run up Arthur's Seat – Meet outside JMCC		
	08:00 – 09:00		Registration		
			Industry Breakfast Symposium:		
			Circle Cardiovascular Imaging	Pentland A	
			Session 4A : Imaging pulmonary artery hypertension and thromboembo Chairs: Dr Deepa Gopalan & Dr Giles Roditi	lic disease	
	Pentland A		o9:oo   Chronic thromboembolic disease: introduction, pathophysiology & current guidelines	Dr Simon Gibbs	
	ltla	09:00 – 10:30	og:20   Multimodality imaging of CTEPH	Dr Deepa Gopalan	
	Pei		o9:40   Balloon pulmonary angioplasty: emerging treatment for CTEPH	Professor Bernhard Meyer	
			10:00   Machine learning in pulmonary hypertension	Dr Declan O'Regan	
			10:20 Discussion/questions		
	Pentland B	09:00 – 10:30	<b>Session 4B :</b> Imaging in valvular heart disease		
			Chairs: Dr Marc Dweck, Dr Matthew Balerdi, Professor Simon Ray		
			o9:oo   Advanced echo assessment of valvular heart disease	Dr Richard Steeds	
			o9:20  CT imaging in aortic valve disease (calcium scoring and TAVI assessment)	Dr Jonathon Leipsic	
	P		og:40   CMR imaging of valve disease	Professor Saul Myerson	
			10:00   PET imaging of valve disease	Dr Marc Dweck	
			10:20 Discussion/questions		
			BNCS Abstract session		
	-		Chairs: Dr Ann Tweddel & Dr Nik Sabharwal		
	onfield	09:00 – 09.20	o9.oo   A Multi-Centre Study of Cardiac Amyloidosis in TAVI Patients	Paul Scully	
	Prestonfield		09.10   The role of 18F-FDG PET/CT imaging in the diagnosis of Infective Endocarditis	Tom Clay	
		09:30 - 10:30	Joint BSCI/BSCCT, BSCMR, BNCS Multimodality Imaging Chairs: TBC	J Case reports - Part 2	
			Image optimisation masterclass 1:		
	-		Chairs: Ms Elizabeth Shaw & Dr Michelle Williams		
	Holyrood		og:oo   ECG interpretation for imaging	Ms Elizabeth Shaw	
	olyr	09:00 – 10:30	09:20   Dealing with emergencies - contrast (anaphylaxis)	Dr Iwan Harries	
	Ĭ		09:40   Dealing with emergencies - VT, cardiac arrest 10:00   Radiation and IRMER	Dr William Moody Dr Christina Stewart	
			10:00   Discussion/questions		
			· · ·		

10:30 – 11:00 Coffee Moderated electronic poster session in the marquee



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		Session 5A :	
1		Imaging devices, endocarditis, electrophysiology	
Pentland A		Chairs: Dr Nik Sabharwal & Dr Ben Holloway	
an	11:00 - 12:30	11:00   Native valve endocarditis an overview	Dr Simon Woldman
ntl	11.00 - 12.30	11:20   Prosthetic valve endocarditis - nuclear imaging	Dr Parthiban Arumugam
Pe		11:40   Cardiac device infection from the implant perspective	Dr Fozia Ahmed
		12:00   Multimodality imaging for electrophysiology	Dr Steven Williams
		12:20 Discussion/questions	
		Session 5B :	
		Essential non-imaging skills	
~		Chairs: Dr Mark Westwood, Dr Sarah Clarke & Dr Graham McKillop	
d B		11:00   Accreditation vs examination	Professor Simon Padley
Pentland	11:00 10:00	11:20   Standardised reporting - pros and cons	Dr James Shambrook
J.	11:00 - 12:30	11:40 How are we to deliver cardiac imaging to meet new	Dr Giles Roditi
Pe		guidelines? Current status, workforce and service planning	
		12:00   Getting it right first time in the era of multimodality	Professor Simon Ray
		imaging ,	,
		12:20 Discussion/questions	
		BSCMR Young Investigator Award	
		Chairs: TBC	
		11.00   Carotid plaque lipid reduction, determined by T2	
		mapping, occurs early after high-intensity statin initiation in	Mohammad Alkhalil
		patients presented with acute myocardial infarction	
		11.10   Assessment of the Microstructure in Recovered Dilated	
		Cardiomyopathy with Diffusion Tensor Cardiovascular	Zohya Khalique
		Magnetic Resonance	Zonya khanqoe
P		11.20   Treatment response in cardiac AL amyloidosis assessed	
fie	11:00 - 12:00	by CMR: findings at 3 months, 6 months and 1 year post-	Ana Martinez-Naharro
to		chemotherapy	
Prestonfield		11.30   Four-dimensional Left Ventricular Blood Flow Energetics	
٦ م		Independently Predict Adverse Remodelling Post ST-elevation	Pankaj Garg
		Myocardial Infarction	· · · · · · · · · · · · · · · · · · ·
		11.40   Defining the effects of genetic variation using machine	
		learning analysis of CMRs: a study in Hypertrophic	Antonio de Marvao
		Cardiomyopathy and in a healthy population	
		11.50   Diffusion tensor magnetic resonance imaging of	
		myocardial disarray in hypertrophic cardiomyopathy	Rina Ariga
		Joint BSCI/BSCCT, BSCMR, BNCS Multimodality Imaging	Case reports - Part a
12:00 - 12:30		Chairs: TBC	g case reports - rait 3
		Image optimisation masterclass 2:	
		Chairs: Dr Michelle Mak & Dr Michelle Crawford-Jefferson	
00		11:00   Nuclear tracers	Dr Jason Tarkin
٨ro	11:00 - 12:30	11:20   PET in coronary and valve disease	Mr Paul Cowan
Holyrood		11:40   Optimising nuclear cardiac images - top tips	Dr Ian Armstrong
Ξ		12:00 Stress agents	Dr Matthew Balerdi
		12:20   Discussion/questions	

12:30 - 13:30	Lunch	
	13.00   BSCMR AGM	Prestonfield



		Industry Session 2	
		Chair: Dr Russell Bull	
	13:30 – 14:00	13:30   Industry presentation	Siemens Healthineers
		13:45   Industry presentation	Cannon Medical
		14.00   Industry presentation	In Health
pu		Session 6:	
Itle		Advanced image analysis in cardiovascular imaging	
Pentland		Chairs: Dr Matthias Schmitt & Professor Dudley Pennell	
		14:15   Cardiac MR quality analysis using machine learning	Professor Julia Schnabel
	14:15 – 15:45	14:35   Deep learning for intelligent cardiac imaging	Professor Daniel Rueckert
		14:55   Artificial intelligence and cardiovascular imaging	Dr Manish Motwani
		15:15   Precision medicine in 2020	Professor James Moon
		15:35 Discussion/questions	
		Case based learning 3:	
Prestonfield	13:30 - 15:30	Myocardial, cardiomyopathy, heart failure	
j		Chairs: Dr Mark Harbinson & Dr Thomas Treibel	
to		13:30   Imaging cases - MRI and nuclear	Dr Manish Motwani
res		14:00   Imaging cases - CT and MRI	Professor Nick Bellenger
		14:30   Imaging cases - CT and nuclear basic	Dr Ben Holloway
		15:00   Imaging cases - Miscellaneous	Dr Timothy Fairbairn
		Image optimisation masterclass 3:	
		Chairs: Dr Gabriella Captur, Dr Julie O'Brien	
σ		13:30   MRI contrast agents	Dr Katharine Vedwan
Holyrood		13:50   MRI safety	Mr David Clark
- <u>I</u>	13:30 – 15:30	14:10   Optimising cardiac MRI images - top tips	Mr David Clark
운		14:30   Dealing with fast and irregular heart rates	Ms Elizabeth Shaw
		14:50   CT contrast	Dr Mhairi Doris
		15:10   Optimising cardiac CT images - top tips	Dr Matthew Benbow
			Di matthew Denbow

15:45	-	16:1	L

Coffee Moderated electronic poster session in the marquee

			Keynote Lecture 2		
		16:15 - 17.00	Chair: Dr Giles Roditi		
			16:15   The future of ca	ardiac CT	Dr Jonathon Leipsic
	q		16:55   Questions/disc	ussion	
	Pentland		Multimodality imag	ging quiz	
		17:00 – 18:00	Chair: Dr Matthias Sch	mitt	
			BSCI/BSCCT team:	Dr James Shambrook, TBC	
			BSCMR team:	Dr Marc Dweck, Dr Ceri Davies	
			BNCS team:	Dr Andrew Kelion, Dr Eliana Reyes	

18:00	Day 2 Close
19:00	Evening Dinner at The Caves, 8-10 Niddry Street South, EH1 1NS



## DAY 3 – Friday 4<sup>th</sup> May 2018

	08:00 – 09:00		Registration	
			<b>Session 8A :</b> Imaging of infiltrative diseases - amyloid, sarcoid	
	Pentland A	09:00 – 10:30	Chairs: Dr Eliana Reyes & Dr Sanjay Banypersad og:oo   MRI imaging in sarcoidosis og:20   The role of hybrid imaging in cardiac sarcoidosis og:40   MR imaging in amyloidosis 10:00   Nuclear imaging and amyloidosis 10:20   Discussion/questions	Dr Sanjay Prasad Dr Eleanor Wicks Dr Marianna Fontana Dr Leon Menezes
	Pentland B	09:00 – 10:30	Session 8B : Imaging in acute chest pain Chairs: Professor Nick Bellenger, Dr Jim Stirrup & Professor Neal Ure 09:00   CT in acute chest pain 09:20   MRI in acute chest pain 09:40   Nuclear imaging in acute chest pain 10:00   Triple rule out - pros and cons 10:20   Discussion/questions	n Dr Klaus Kofoed Dr Chiara Bucciarelli-Ducci Dr Andrew Einstein Dr Russell Bull
	Prestonfield	09:00 – 10:30	Case based learning 4: Valves, pericardial, aorta Chairs: Dr Mark Hamilton & Dr Iwan Harries 09:00   Imaging cases MRI 09:30   Imaging cases CT 10:00   Imaging cases nuclear	Dr Matthias Schmitt Dr Alastair Moss Dr Steven White
	10:	30 - 11:00	Coffee	
	Pentland A	11:00 - 12:30	Session 9A : Potential risks of cardiovascular imaging Chairs: Dr Kshama Wechalekar & Professor Simon Padley 11:00   What are the risks from ionising radiation in cardiovascular imaging? An update 11:25   What are the risks from the biological effects of CMR? An update 11:50   Risks of gadolinium contrast agents - what is the evidence? 12:15   Panel discussion	Dr Andrew Einstein Dr Chris Miller Dr Giles Roditi
	Pentland B	11:00 - 12:30	Session 9B : Imaging inherited cardiac disease Chairs: Dr Timothy Fairbairn & Dr Leon Menezes 11:00   Hypertensive heart disease 11:20   Exercise induced cardiomyopathies 11:40   Imaging in sudden cardiac death (family screening etc.) 12:00   Post-mortem cardiac imaging - can imaging add to the diagnosis? 12:20   Discussion/questions	Dr Thomas Treibel Dr Aneil Malhotra Dr Matthias Schmitt Professor Bruno Morgan
	Prestonfield	11:00 - 12:30	Read with the Experts: Pot pourriChairs: Dr Ananth Kidambi & Dr Jason Tarkin11:00   Imaging cases MRI11:30   Imaging cases CT12:00   Imaging cases nuclear	Professor Nick Bellenger Dr Russell Bull Dr Eliana Reyes



	12:30 - 13:30		Lunch	
		JJ·J-	13.00   BNCS AGM	Prestonfield
	Pentland	13:30 - 14:30	Keynote Lecture 3	
			Chair: Professor Richard Underwood	
			13:30   PET/MRI - how should we use it in cardiovascular imaging?	Professor Frank Bengel
			14:15   Questions/discussion	
	14:30 – 15:00		Coffee	
	Pentland	15:00 – 16:00	Session 10:	
			Top trials in cardiovascular imaging	
			Chair: Professor Colin Berry, Dr Michelle Williams, Dr Nik Sabharwal	
			15:00   Top trials CT	Dr Jim Stirrup
			15:15   Top trials MRI	Professor Vanessa Ferreira
			15:30   Top trials Nuclear cardiology	Dr Eliana Reyes
			15:45   Discussion	

16:00	Day 3 and Meeting Close

#### **BCVI Learning outcomes**

- Develop an awareness of the various imaging modalities available to assess cardiovascular diseases.
- Appreciate the recent research in cardiovascular imaging, both with individual imaging modalities and multimodality imaging.
- Know some of the advantages and disadvantages of the different non-invasive imaging modalities for patients with a range of cardiac disease.
- Understand the need for collaborative multimodality imaging in the care of patients with cardiac diseases.
- Be aware of appropriate guidelines for the use of non-invasive cardiovascular imaging.

#### Accreditation

- This course provides 18 CPD credits in accordance with the CPD Scheme of the Royal College of Radiologists
- 18 CPD credits have been applied for through the Royal College of Physicians

