

SAMER ALABED



SUMMARY

As an NIHR Clinical Lecturer in Radiology, I developed and evaluated machine learning applications in cardiac imaging. These applications have enabled automated diagnosis, anatomical segmentation and allowed me to assess prognosis and treatment response in pulmonary hypertension. My research garnered publication in prestigious imaging, cardiology and respiratory medicine journals. It has also gained recognition in European guidelines and international and national awards. I have effectively utilised my expertise in imaging, evidence-based medicine, big data management and computer coding to develop collaborations with leading PH centers worldwide. Additionally, I bring valuable experience in conducting Cochrane meta-analyses on treatment intervention and diagnostic accuracy alongside my proficiency in handling intricate network meta-analyses.

QUALIFICATIONS

2023	PhD - AI in cardiac MRI	University of Sheffield
	» Thesis: AI in cardiac MRI to predict prognosis and treatment response	
	» Supervisors: Dr Andy Swift and Professor Haiping Lu	
2021	FHEA - Fellow of the Higher Education Academy	Higher Education Academy
2020	PgCert - Medical Education	University of Dundee
2019	MSc - Clinical Research Methods (Distinction)	University of Sheffield
2018	FRCR - Fellow of the Royal College of Radiologists	Royal College of Radiologists
2013	MSc - Evidence Based Health-Care	University of Oxford
2011	MD - Medical Degree	Damascus University

PROFESSIONAL MEMBERSHIPS

GMC	General Medical Council
RCR	Royal College of Radiologists
ESR	European Society of Radiology
ESC	European Society of Cardiology
ERS	European Respiratory Society
BSCMR	British Society of Cardiovascular Magnetic Resonance
BSCI	British Society of Cardiovascular Imaging
ARRS	American Roentgen Ray Society
RSNA	Radiological Society of North America
SCMR	Society for Cardiovascular Magnetic Resonance
ESCR	European Society of Cardiovascular Radiology
EACVI	European Association of Cardiovascular Imaging
NASCI	North American Society for Cardiovascular Imaging

RESEARCH EXPERIENCE

2022-	NIHR Clinical Lecturer in Radiology	University of Sheffield
	<ul style="list-style-type: none">› Implementing AI applications in clinical practice› Vital role in research collaborations with Ohio, Leiden and Singapore	
2019-22	Wellcome Trust Research Fellow in Cardiac MRI	University of Sheffield
	<ul style="list-style-type: none">› Data scientist of the ASPIRE cardiac MRI and CT database› Helped train, validate and audit deep learning cardiac MRI segmentation› Applied machine learning in cardiac MRI to predict diagnosis and prognosis	
2014-19	NIHR Academic Clinical Fellow in Radiology	University of Sheffield
	<ul style="list-style-type: none">› Performing and evaluating diagnostic accuracy studies in radiology	
2010-	Cochrane Systematic Reviewer	Cochrane Heart

CLINICAL EXPERIENCE

2023-24	Advanced Cardiothoracic Imaging Fellowship	Royal Papworth Hospital
	<ul style="list-style-type: none">› Clinical Supervisor: Dr Bobby Agrawal› Research Mentor: Dr Jonathan Weir-Mccall	
2022-23	Cardiothoracic Radiology Training	Sheffield Teaching Hospitals
	<ul style="list-style-type: none">› Cardiac MRI level 3 accreditation - SCMR› Cardiac CT level 2 accreditation - BSCI› 3 months Cardiac CT experience - Leeds University Hospitals	
2019-22	Out-of-Programme for Research (OOPR)	Sheffield Teaching Hospitals
	<ul style="list-style-type: none">› Acute and trauma CT and diagnostic and interventional ultrasound	
2014-19	Core Radiology Training	Sheffield Teaching Hospitals
	<ul style="list-style-type: none">› ST4 Acute and general CT, Oncology imaging, US intervention› ST3 Chest, Uro & Gynae, Paediatric and Vascular radiology› ST2 Neuroradiology, GI, MSK, Breast and Nuclear imaging› ST1 Plain radiography, US, CT, Fluoroscopy	
2013-14	Clinical Foundation Training	Buckinghamshire Healthcare Trust
	<ul style="list-style-type: none">› Cardiology including coronary care unit, heart failure and valve clinics	

GRANTS & AWARDS

Research funding

£469,272	Co-Investigator: 2023 - 2024	British Heart Foundation
	» PROMETHEUS: Pulmonary hypertension induced Right heart failure	
£49,998	Co-Investigator: 2023	NIHR i4i
	» AI-Assisted Diagnosis of Pulmonary Hypertension using CT and MRI Scans	
£199,946	Co-Investigator: 2021 - 2023	Janssen Pharmaceuticals
	» Building a database of imaging in suspected pulmonary hypertension	
£114,354	Co-Investigator: 2021 - 2022	Janssen Pharmaceuticals
	» Automatic Echo assessment to improve pulmonary hypertension diagnosis	
£10,000	Co-Investigator: 2021	NIHR Cochrane Incentive Award
	» NOAC for myocardial infarction - a network meta-analysis	
£7,500	Co-Investigator: 2019	NIHR Cochrane Incentive Award
	» NOAC for atrial fibrillation - a network meta-analysis	
£23,500	Scholarship: 2011	The Saïd Foundation
	» MSc at the University of Oxford	

Awards

~£2500	AI-NET Fellowship - Excellence in AI Research - 2023	DAAD
Winner	NHS Parliamentary Awards - National Awards - 2023	NHS England
Winner	The Future of NHS Award - North East & Yorkshire - 2023	NHS England
Finalist	Digital Innovator of the Year - 2023	HSJ Awards
Distinction	Radiology Editor's Recognition Award - 2023	Radiology: RCTI
£5000	NHS Innovation Award - 2022	Medipex
1st prize	Oral Abstract Winner at RCR Global - 2022	RCR
£500	British Thoracic Society Conference Award - 2022	BTS
£250	European Congress of Radiology Travel Award - 2022	RCR
1st prize	School of Radiology - Yorkshire & Humber - 2022	Health Education England
\$1000	RSNA Trainee Research Prize - 2021	RSNA
£500	The Sir Ernest Finch Travelling Fellowship - 2021	Sheffield Teaching Hospitals
1st prize	Professor Ronald Grainger Prize - 2021, 2020 & 2018	Sheffield Teaching Hospitals
£3,000	Education, Research and Innovation Grant - 2018	Health Education England
1st prize	George and Vera Ansell Radiology Prize - 2018	RCR
£3,000	Constance Thornton Award for Radiology Research - 2017	RCR
3rd prize	Radiology Trainee Oral Presentation Award - 2015	Society of Radiologists in Training

IMPACT AND RECOGNITION

Citations in Guidelines

2022	Diagnosis and treatment of pulmonary hypertension	ESC & ERS
2019	Management of patients with supraventricular tachycardia	ESC
2015	Diagnosis and management of pericardial diseases	ESC

Media Coverage

July 2023	MP visits finalists for transformative AI heart disease technology.	The Star
June 2023	Sheffield Hospitals heart diagnosis AI technology announced as regional winner of Future NHS Award.	The Star
May 2023	NHS doctors want ChatGPT AI to write patient heart reports so they can see more people.	The Daily Mail
March 2023	Artificial intelligence can save NHS time and money with heart scans.	The Mirror
Dec 2022	NHS heart patients to receive quicker diagnosis due to Sheffield University and Teaching Hospitals innovation.	The Star
Dec 2022	AI spots damage on heart scans in seconds.	The Daily Mail
Dec 2021	AI-based measurements increase utility of cardiac MRI.	AuntMinnie

SERVICE TO RESEARCH COMMUNITY

Journal Editor Roles

Deputy	Radiology: Cardiothoracic Imaging
Contact	Cochrane Heart

Peer Review

8 reviews	Radiology: Cardiothoracic Imaging
7 reviews	Clinical Radiology
6 reviews	European Heart Journal - Cardiovascular Imaging
2 reviews	JACC: Cardiovascular Imaging
2 reviews	Insights Into Imaging
1 review	Magnetic Resonance Imaging
1 review	Clinical Pediatrics
3 reviews	RCR Seed Grant
2 reviews	RCR Kodak Fellowship
1 review	RCR Roentgen Professorship

Invited Panel Chair

2023	BSCMR Annual Conference
2023	BSCI Annual Conference

LEADERSHIP AND MANAGEMENT

Committee roles

- › Co-Chair Trainee Committee - British Society of Cardiovascular Imaging
- › Co-Lead Imaging and omics AI interest group - University of Sheffield
- › Co-Chair Trainee Committee - British Society of Cardiac Magnetic Resonance
- › AI working group - RCR Clinical Academic Committee
- › Expert Panel for Radiology Research - RCR RADIANT
- › Radiology Training committee - Sheffield Teaching Hospitals

Rota management

- › Radiology on-call coordinator working closely with HR since 2018
- › Performed a cost-effectiveness analysis for multiple on-call rota scenarios
- › Improved on-call cover by introducing Twilight shifts for junior trainees
- › Responded to Covid-19 pressure with a double cover system described as a "stroke of genius" by the Clinical Director

Student and Trainee Representation

- › Representative of less than full-time radiology trainees
- › Student councillor - University of Sheffield (2014/15)
- › Student representative - University of Oxford (2012/13)

Management Courses

- › Intensive Course on Leadership - University of Sheffield
- › Decision Making - University of Oxford
- › Making Decisions Based on Data - Udacity University
- › Economic Evaluation & Healthcare Financing - University of Sheffield

TEACHING

Teaching Experience

- › Organiser of the national BSCI 2024 annual conference at Sheffield
- › PhD co-supervisor at University of Sheffield: Turki Nasser and Khalid Ghamdi
- › Organised the BSCMR Webinar series 2023
- › Organised the BSCI Cardiac CT workshop at BCS 2022
- › MBChB Anatomy Demonstrator, Medical School, University of Sheffield
- › Lecturer MRes Cardiovascular Medicine - "How to write Systematic Reviews"
- › Mentor to junior radiology registrars and research trainees
- › Lecturer - SAMS virtual EBM courses with > 20,000 views on YouTube
- › Educational Advisor - RadiGo radiology teaching website
- › Tutor - International Critical Appraisal Skills Programme, University of Oxford
- › Regular one-to-one and small group departmental radiology teaching

Teaching Courses

- › Gateway Course in Medical Education - University of Sheffield
- › Training the Trainer course - University of Oxford

Highlighted Publications

- [1] **Alabed** S, Garg P, Alandejani F, Dwivedi K, Maiter A, Karunasaagarar K, Rajaram S, Hill C, Thomas S, Gossling R, et al. *Establishing minimally important differences for cardiac MRI endpoints in pulmonary arterial hypertension*. European Respiratory Journal, 2023.
- [2] Zhong L, **Alabed** S, Leng S, Chai P, Teo L, Ruan W, Low TT, Wild JM, Allen JC, Lim ST, et al. *Pulmonary Artery Strain Predicts Prognosis in Pulmonary Arterial Hypertension*. JACC: Cardiovascular Imaging, 2023.
- [3] **Alabed** S, Alandejani F, Dwivedi K, Karunasaagarar K, Sharkey M, Garg P, Koning PJH de, Tóth A, Shahin Y, Johns C, et al. *Validation of Artificial Intelligence Cardiac MRI Measurements: Relationship to Heart Catheterization and Mortality Prediction*. Radiology, 2022.
- [4] **Alabed** S, Uthoff J, Zhou S, Garg P, Dwivedi K, Alandejani F, Gosling R, Schobs L, Brook M, Capener D, et al. *Machine Learning cardiac-MRI features predict mortality in newly diagnosed pulmonary arterial hypertension*. European Heart Journal - Digital Health, 2022.
- [5] **Alabed** S, Maiter A, Salehi M, Wild J, Lu H, O'regan D, Van Der Geest R, Garg P, and Swift A. *Quality of reporting in AI cardiac MRI segmentation studies - a systematic review and recommendations for future studies*. Vol. 9. Frontiers in Cardiovascular Medicine, 2022.
- [6] Alandejani F, **Alabed** S, Garg P, Goh ZM, Karunasaagarar K, Sharkey M, Salehi M, Aldabbagh Z, Dwivedi K, Mamalakis M, et al. *Training and clinical testing of artificial intelligence derived right atrial cardiovascular magnetic resonance measurements*. Vol. 24. Journal of Cardiovascular Magnetic Resonance, 2022, p. 25.
- [7] Garg P, Gosling R, Swoboda P, Jones R, Rothman A, Wild JM, Kiely DG, Condliffe R, **Alabed** S, and Swift AJ. *Cardiac magnetic resonance identifies raised left ventricular filling pressure: prognostic implications*. European Heart Journal, May 2022.
- [8] Goh ZM, Balasubramanian N, **Alabed** S, Dwivedi K, Shahin Y, Rothman AMK, Garg P, Lawrie A, Capener D, Thompson AAR, et al. *Right ventricular remodelling in pulmonary arterial hypertension predicts treatment response*. Heart, 2022.
- [9] Shahin Y, **Alabed** S, Lewis RA, Johns C, Garg P, Wild JM, Condliffe R, Swift AJ, Kiely DG, and al. et. *CMR Measures of Left Atrial Volume Index and Right Ventricular Function Have Prognostic Value in Chronic Thromboembolic Pulmonary Hypertension*. Vol. 9. Frontiers in Medicine, 2022.
- [10] **Alabed** S, Shahin Y, Alandejani F, Johns C, Lewis R, Condliffe R, Wild J, Kiely D, and Swift A. *Cardiac-MRI Predicts Clinical Worsening and Mortality in Pulmonary Arterial Hypertension: A Systematic Review and Meta-Analysis*. JACC Cardiovascular Imaging, 2021.
- [11] **Alabed** S, Saunders L, Garg P, Shahin Y, Rolf A, Puntmann V, Nagel E, Wild J, Kiely D, and Swift A. *Myocardial T1-mapping and extracellular volume in pulmonary arterial hypertension: A systematic review and meta-analysis*. Vol. 79. Magnetic Resonance Imaging, 2021, pp. 66–75.
- [12] **Alabed** S, Garg P, Johns CS, Alandejani F, Shahin Y, Dwivedi K, Wild J, Kiely D, and Swift A. *Cardiac Magnetic Resonance in Pulmonary Hypertension-an Update*. Vol. 13. Current Cardiovascular Imaging Reports, 2020.
- [13] Goh Z, **Alabed** S, Rothman A, Garg P, Lawrie A, Thompson R, Condliffe R, Wild J, Kiely D, Swift A, and al. et. *Right Ventricular Adaptation Assessed Using Cardiac Magnetic Resonance Predicts Survival in Pulmonary Arterial Hypertension*. JACC: Cardiovascular Imaging, 2020.
- [14] Al Said S, Katus HA, and **Alabed** S. *Cochrane corner: NOACs in atrial fibrillation patients post-percutaneous coronary intervention*. Vol. 106. Heart, 2020, pp. 1293–1295.
- [15] Al Said S, **Alabed** S, Kaier K, Tan A, Bode C, Meerpohl J, and Duerschmied D. *Non-vitamin K antagonist oral anticoagulants (NOACs) post-percutaneous coronary intervention: a network meta-analysis*. Vol. 12. Cochrane, 2019.
- [16] **Alabed** S, Providência R, and Chico TJA. *Cochrane corner: adenosine versus intravenous calcium channel antagonists for supraventricular tachycardia*. Vol. 104. Heart, 2018, pp. 1993–1994.

Peer Reviewed Publications

- [17] Weir-McCall J and **Alabed S**. "Myocardial Tissue Characterization With CT-Derived Extracellular Volume". In: *JACC: Cardiovascular Imaging* (2023).
- [18] Dwivedi K, Sharkey M, **Alabed S**, Langlotz CP, Swift AJ, and Bluethgen C. "External validation, radiological evaluation, and development of deep learning automatic lung segmentation in contrast-enhanced chest CT". In: *Eur Radiol* (2023).
- [19] Mastrodicasa D, Gunasekaran S, **Alabed S**, Gulsin GS, and Hanneman K. "Top 2023 Images in Cardiothoracic Imaging". In: *Radiology: Cardiothoracic Imaging* 5 (2023).
- [20] Maiter A, Hocking K, Matthews S, Taylor J, Sharkey M, Metherrall P, **Alabed S**, Dwivedi K, Shahin Y, Anderson E, et al. "Evaluating the performance of artificial intelligence software for lung nodule detection on chest radiographs in a retrospective real-world UK population". In: *BMJ Open* 13 (2023).
- [21] Grafton-Clarke C, Matthews G, Gosling R, Swoboda P, Rothman A, Wild JM, Kiely DG, Condliffe R, **Alabed S**, Swift AJ, and Garg P. "The Left Atrial Area Derived Cardiovascular Magnetic Resonance Left Ventricular Filling Pressure Equation Shows Superiority over Integrated Echocardiography". In: *Medicina* 59 (2023).
- [22] Grafton-Clarke C, Garg P, Swift AJ, **Alabed S**, Thomson R, Aung N, Chambers B, Klassen J, Levelt E, Farley J, et al. "Cardiac magnetic resonance left ventricular filling pressure is linked to symptoms, signs and prognosis in heart failure". In: *ESC Heart Failure* 10 (2023), pp. 3067–3076.
- [23] **Alabed S**. "Artificial Intelligence in Cardiac Magnetic Resonance Imaging to Predict Prognosis and Treatment Response". In: *White-Rose E-Thesis* (2023).
- [24] Maiter A, Salehi M, Swift A, and **Alabed S**. "How should studies using AI be reported? Lessons from a systematic review in cardiac MRI". In: *Frontiers in Radiology* 3 (2023).
- [25] Alkhanfar D, Dwivedi K, Alandejani F, Shahin Y, **Alabed S**, Johns C, Garg P, Thompson AAR, Rothman AMK, Hameed A, et al. "Non-invasive detection of severe PH in lung disease using magnetic resonance imaging". In: *Frontiers in Cardiovascular Medicine* 10 (2023).
- [26] Garg P, Javed W, Assadi H, **Alabed S**, Grafton-Clarke C, Swift AJ, Williams G, Al-Mohammad A, Sawh C, Vassiliou VS, et al. "An acute increase in Left Atrial volume and left ventricular filling pressure during Adenosine administered myocardial hyperaemia: CMR First-Pass Perfusion Study". In: *BMC Cardiovascular Disorders* 23 (2023), p. 246.
- [27] Macdonald A, Salehi M, **Alabed S**, Maiter A, Goh ZM, Dwivedi K, Johns C, Cogliano M, Alandejani F, Condliffe R, et al. "Semi-automatic thresholding of RV trabeculation improves repeatability and diagnostic value in suspected pulmonary hypertension". In: *Frontiers in Cardiovascular Medicine* 9 (2023).
- [28] Hameed A, Condliffe R, Swift AJ, **Alabed S**, Kiely DG, and Charalampopoulos A. "Assessment of Right Ventricular Function—a State of the Art". In: *Current Heart Failure Reports* 20 (2023), pp. 194–207.
- [29] Grafton-Clarke C, Garg P, Swift AJ, **Alabed S**, Thomson R, Aung N, Chambers B, Klassen J, Levelt E, Farley J, et al. "Cardiac magnetic resonance left ventricular filling pressure is linked to symptoms, signs and prognosis in heart failure". In: *ESC Heart Failure* ().
- [30] Gosling RC, Williams G, Al Baraikan A, **Alabed S**, Levelt E, Chowdhary A, Swoboda PP, Halliday I, Hose DR, Gunn JP, et al. "Quantifying Myocardial Blood Flow and Resistance Using 4D-Flow Cardiac Magnetic Resonance Imaging". In: *Cardiology research and practice* (2023).
- [31] Doolub G, Mamalakis M, **Alabed S**, Van der Geest RJ, Swift AJ, Rodrigues JCL, Garg P, Joshi NV, and Dastidar A. "Artificial Intelligence as a Diagnostic Tool in Non-Invasive Imaging in the Assessment of Coronary Artery Disease". In: *Medical Sciences* 11 (2023).
- [32] Assadi H, Li R, Grafton-Clarke C, Uthayachandran B, **Alabed S**, Maiter A, Archer G, Swoboda PP, Sawh C, Ryding A, et al. "Automated 4D flow cardiac MRI pipeline to derive peak mitral inflow diastolic velocities using short-axis cine stack: two centre validation study against echocardiographic pulse-wave doppler". In: *BMC Cardiovascular Disorders* 23 (2023), p. 24.
- [33] Li R, Assadi H, Matthews G, Vassiliou VS, Nelthorpe F, Ashman D, Curtin J, Van der Geest RJ, **Alabed S**, Swift AJ, Hughes M, and Garg P. "The Importance of Mitral Valve Prolapse Doming Volume in the Assessment of Left Ventricular Stroke Volume with Cardiac MRI". In: *Medical Sciences* 11 (2023), p. 13.
- [34] Mamalakis M, Dwivedi K, Sharkey M, **Alabed S**, Kiely D, and Swift AJ. "A transparent artificial intelligence framework to assess lung disease in pulmonary hypertension". In: *Scientific Reports* 13 (2023), p. 3812.

- [35] Sharkey MJ, Taylor JC, **Alabed** S, Dwivedi K, Karunasaagarar K, Johns CS, Rajaram S, Garg P, Alkhanfar D, Metherall P, et al. "Fully automatic cardiac four chamber and great vessel segmentation on CT pulmonary angiography using deep learning". In: *Frontiers in Cardiovascular Medicine* 9 (2022).
- [36] Alandejani F, Hameed A, Tubman E, **Alabed** S, Shahin Y, Lewis RA, Dwivedi K, Mahmood A, Middleton J, Watson L, et al. "Imaging and Risk Stratification in Pulmonary Arterial Hypertension: Time to Include Right Ventricular Assessment". In: *Frontiers in Cardiovascular Medicine* 9 (2022).
- [37] Shahin Y, **Alabed** S, Alkhanfar D, Tschirren J, Rothman AMK, Condliffe R, Wild JM, Kiely DG, and Swift AJ. "Quantitative CT Evaluation of Small Pulmonary Vessels Has Functional and Prognostic Value in Pulmonary Hypertension". In: *Radiology* (2022).
- [38] Assadi H, **Alabed** S, Maiter A, Salehi M, Li R, Ripley DP, Van der Geest RJ, Zhong Y, Zhong L, Swift AJ, and Garg P. "The Role of Artificial Intelligence in Predicting Outcomes by Cardiovascular Magnetic Resonance: A Comprehensive Systematic Review". In: *Medicina* 58 (2022).
- [39] Alkhanfar D, Shahin Y, Alandejani F, Dwivedi K, **Alabed** S, Johns C, Lawrie A, Thompson AR, Rothman AM, Tschirren J, et al. "Severe pulmonary hypertension associated with lung disease is characterised by a loss of small pulmonary vessels on quantitative computed tomography". In: *European Respiratory Journal Open Research* 8 (2022).
- [40] Njoku P, Grafton-Clarke C, Assadi H, Gosling R, Archer G, Swift AJ, Morris P, **Alabed** S, Flather M, Cameron D, et al. "Validation of time-resolved, automated peak trans-mitral velocity tracking: Two center four-dimensional flow cardiovascular magnetic resonance study". In: *International Journal of Cardiology* (2022).
- [41] Dwivedi K, Condliffe R, Sharkey M, Lewis R, **Alabed** S, Rajaram S, Hill C, Saunders L, Metherall P, Lu H, et al. "Computed tomography lung parenchymal descriptions in routine radiological reporting have diagnostic and prognostic utility in patients with idiopathic pulmonary arterial hypertension and pulmonary hypertension associated with lung disease". In: *European Respiratory Journal Open Research* (2022).
- [42] Al Said S, Garg P, Jenkins S, Ahmad M, Qintar M, Kyriacou A, Verma N, Providencia R, Camm J, and **Alabed** S. "Catheter ablation for atrial fibrillation (Protocol)". In: *Cochrane Database of Systematic Reviews* 1 (2022).
- [43] Lanham S, Maiter A, Swift AJ, Dwivedi K, **Alabed** S, Evans O, Sharkey MJ, Matthews S, and Johns CS. "The reproducibility of manual RV/LV ratio measurement on CT pulmonary angiography". In: *British Journal of Radiology Open* eprint (2022).
- [44] Saunders L, Hughes P, **Alabed** S, Capener D, Marshall H, Vogel-Claussen J, Beek ER van, Kiely D, Swift A, and Wild J. "Integrated Cardiopulmonary MRI Assessment of Pulmonary Hypertension". In: *Journal of Magnetic Resonance Imaging* (2021).
- [45] Jenkins S, **Alabed** S, Swift A, Marques G, Ryding A, Sawh C, Wardley J, Shah B, Swoboda P, Senior R, et al. "Diagnostic accuracy of handheld cardiac ultrasound device for assessment of left ventricular structure and function: systematic review and meta-analysis". In: *Heart* (2021).
- [46] Swift A, Wilson F, Cogliano M, Kendall L, **Alabed** S, Rothman A, Garg P, Wild J, Kiely D, and al. et. "Repeatability and sensitivity to change of non-invasive end points in PAH: the RESPIRE study". In: *BMJ Thorax* (2021).
- [47] Swift A, Lu H, Garg P, Taylor J, Metherall P, Johns CS, **Alabed** S, Wild J, Kiely D, and al. et. "A machine learning cardiac magnetic resonance approach to extract disease features and automate pulmonary arterial hypertension diagnosis". In: *European Heart Journal Cardiovascular Imaging* 22 (2021), pp. 236–245.
- [48] Dwivedi K, Sharkey M, Condliffe R, Uthoff J, **Alabed** S, Metherall P, Lu H, Wild J, Hoffman E, Swift A, and Kiely D. "Pulmonary Hypertension in Association with Lung Disease: Quantitative CT and Artificial Intelligence to the Rescue? State-of-the-Art Review". In: *Diagnostics* 11 (2021).
- [49] Hocking K, Alhun U, Balian V, Kabuli M, Tse G, Chopra A, Kotnis N, Connelly D, and **Alabed** S. "Acute haemorrhage rate in 28,000 Out-of-Hours CT heads". In: *The British Journal of Radiology* 95 (2021).
- [50] Kaur H, Assadi H, **Alabed** S, Vassiliou VS, Westenberg JJM, Geest R van der, Swift AJ, and Garg P. "Left Ventricular Blood Flow Kinetic Energy Assessment by 4D Flow Cardiovascular Magnetic Resonance: A Systematic Review". In: *Journal of Cardiovascular Development and Disease* 7 (2020).
- [51] Jones R, Varian F, **Alabed** S, Morris P, Rothman A, Swift A, Wild J, and Garg P. "Meta-analysis of echocardiographic quantification of left ventricular filling pressure". In: *ESC Heart Failure* 8 (2020), pp. 566–76.
- [52] **Alabed** S, Sabouni A, Providencia R, Atallah E, Qintar M, and Chico T. "Adenosine versus intravenous calcium channel antagonists for supraventricular tachycardia". In: *Emergencias* 32 (2020), pp. 57–58.
- [53] Davis H, **Alabed** S, and Chico T. "Effect of sports massage on performance and recovery: a systematic review and meta-analysis". In: *BMJ Open Sport Exercise Medicine* 6 (2020).

- [54] **Alabed S**, Latifeh Y, Mohammad HA, and Bergman H. "Gamma-aminobutyric acid agonists for antipsychotic-induced tardive dyskinesia". In: *Cochrane Database of Systematic Reviews* 4 (2018).
- [55] **Alabed S**, Sabouni A, Providencia R, Atallah E, Qintar M, and Chico T. "Adenosine versus intravenous calcium channel antagonists for supraventricular tachycardia". In: *Cochrane* 10 (2017).
- [56] Alahdab F, **Alabed S**, Al-Moujahed A, Al Sallakh MA, Alyousef T, Alsharif U, Fares M, and Murad M. "Evidence-based medicine: a persisting desire under fire". In: *BMJ Evidence Based Medicine* 22 (2017), pp. 9–11.
- [57] Alsharif U, Al-Moraissi E, and **Alabed S**. "Systemic antibiotic prophylaxis for preventing infectious complications in maxillofacial trauma surgery". In: *Cochrane Database of Systematic Reviews* 3 (2017).
- [58] Hart A, Sharma R, Atherton M, **Alabed S**, Simpson S, Barfield S, Cohen J, McGlashan N, Ravi A, Parker M, and Connolly D. "Aetiological investigations in early developmental impairment: are they worth it?" In: *Archives of Disease in Childhood* 102.11 (2017), pp. 1004–1013.
- [59] "Global, regional, and national burden of neurological disorders during 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015". In: *Lancet Neurology* 16.11 (2017), pp. 877–897.
- [60] "Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016". In: *Lancet* 390.10100 (2017), pp. 1084–1150.
- [61] "Global, Regional, and National Cancer Incidence, Mortality, Years of Life Lost, Years Lived With Disability, and Disability-Adjusted Life-years for 32 Cancer Groups, 1990 to 2015". In: *JAMA Oncology* 3.4 (2017), pp. 524–548.
- [62] "Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015". In: *Lancet* 388.10053 (2016), pp. 1459–1544.
- [63] **Alabed S**, Heredia L de, Naidoo A, Belci M, Hughes R, and Meagher T. "Incidence of pulmonary embolism after the first 3 months of spinal cord injury". In: *Spinal Cord* 53 (2016), pp. 835–7.
- [64] **Alabed S**, Belci M, Van Middendorp JJ, Al Halabi A, and Meagher TM. "Thromboembolism in the Sub-Acute Phase of Spinal Cord Injury: A Systematic Review". In: *Asian Spine Journal* 10.5 (2016), pp. 972–981.
- [65] **Alabed S**. "Reply to Silver and Masri". In: *Spinal Cord* 54.10 (2016), p. 909.
- [66] **Alabed S**, Pérez-Gaxiola G, and Burls A. "Colchicine for children with pericarditis: systematic review of clinical studies". In: *Archives of Disease in Childhood* 101 (2016), pp. 953–6.
- [67] **Alabed S**, Sabouni A, Al Dakhoul S, Bdaiwi Y, and Frobel-Mercier A. "Beta-blockers for congestive heart failure in children". In: *Cochrane* 1 (2016).
- [68] **Alabed S**, Cabello J, and Burls A. "Cochrane corner: colchicine for pericarditis". In: *Heart* 101.18 (2015).
- [69] **Alabed S**, Cabello JB, Irving GJ, Qintar M, and Burls A. "Colchicine for pericarditis". In: *Cochrane* 8 (2014).
- [70] **Alabed S**, Guul A, Crighton C, Alahdab F, Fares M, Morad M, Sonbol MB, Madmani ME, and Unwin N. "Assessment of diabetes care in Palestinian refugee camps in Syria". In: *Avicenna Journal of Medicine* 4 (2014), pp. 66–70.
- [71] Essali A, **Alabed S**, Guul A, and Essali N. "Preventive interventions for postnatal psychosis". In: *Cochrane Database of Systematic Reviews* 6 (2013).
- [72] Essali A, **Alabed S**, Guul A, and Essali N. "Preventive interventions for postnatal psychosis". In: *Schizophrenia Bulletin* 39 (2013), pp. 748–50.
- [73] **Alabed S**, Latifeh Y, Mohammad HA, and Rifai A. "Gamma-aminobutyric acid agonists for neuroleptic-induced tardive dyskinesia". In: *Cochrane Database of Systematic Reviews* 4 (2011).

Conference Publications

- [74] **Alabed S**, Garg P, Alandejani F, Dwivedi K, Maiter A, Gossling R, Sharkey M, Salehi M, Geest RJ van der, Swift AJ, and Kiely DG. "Defining cardiac MRI change thresholds based on how a patient feels, functions, and survives post pulmonary arterial hypertension treatment". In: *Heart*. Vol. 109. Suppl 4. 2023.
- [75] **Alabed S**, Garg P, Alandejani F, Dwivedi K, Maiter A, Karunasaagarar K, Rajaram S, Hill C, Thomas S, Gossling R, et al. "Cardiac MRI thresholds for improvement in pulmonary arterial hypertension". In: *Heart*. Vol. 109. 2023.
- [76] Al Said S, Kaier K, Sumaya W, Alsaid D, Duerschmied D, Storey RF, Gibson CM, Westermann D, and **Alabed S**. "Non-vitamin-K-antagonist oral anticoagulants (NOACs) after acute myocardial infarction: a network meta-analysis". In: *European Heart Journal*. Vol. 44. 2023.

- [77] Delaney L, **Alabed** S, Salehi M, Goodlad M, Checkley E, Shah H, Swift A, and Dwivedi K. "Interobserver variability of the ATS/ERS/JRS/ALAT diagnostic CT criteria for idiopathic pulmonary fibrosis: a systematic review and meta-analysis". In: *European Respiratory Journal*. Vol. 62. suppl 67. 2023.
- [78] Dwivedi K, Sharkey M, Delany L, **Alabed** S, Rajaram S, Hill C, Johns C, Rothman A, Thompson R, Wild J, et al. "Artificial Intelligence and Computed Tomography to improve quantification and prognostication of lung disease in precapillary pulmonary hypertension". In: *European Respiratory Journal*. Vol. 62. suppl 67. 2023.
- [79] Dwivedi K, Sharkey M, **Alabed** S, Condliffe R, Swift A, and Kiely D. "Quantitative Computed Tomography Lung Parenchymal Features Can Aid in Phenotyping of Group 1 and Group 3 Pulmonary Hypertension". In: *American Thoracic Society*.
- [80] Tripathi PC, Suvon MNI, Schobs L, Zhou S, **Alabed** S, Swift AJ, and Lu H. "Tensor-Based Multimodal Learning for Prediction of Pulmonary Arterial Wedge Pressure from Cardiac MRI". In: *MICCAI 2023*. 2023, pp. 206–215.
- [81] **Alabed** S, Garg P, Dwivedi K, Maiter A, Karunasaagarar K, Rajaram S, Hill C, Thomas S, Wild J, Swift A, and Kiely D. "Establishing minimally important differences for cardiac MRI endpoints in pulmonary arterial hypertension". In: *Thorax*. Vol. 77. 2022.
- [82] **Alabed** S, Garg P, Dwivedi K, Maiter A, Karunasaagarar K, Rajaram S, Hill C, Thomas S, Wild J, Swift A, and Kiely D. "Prediction of outcome with cardiac MRI measurements in patients with pulmonary arterial hypertension". In: *The International Journal of Cardiovascular Imaging*. Vol. A-264. 2022.
- [83] **Alabed** S, Maiter A, Mahmood A, Daniel S, Salehi M, Jenkins S, Sharkey M, Dwivedi K, Mamalakis M, Assadi H, Garg P, and Swift A. "Quality of reporting of artificial intelligence studies: Lessons learnt from a systematic review of the literature". In: *Clinical Radiology*. Vol. 77. 2022.
- [84] **Alabed** S, Maiter A, Mahmood A, Daniel S, Salehi M, Jenkins S, Sharkey M, Rakocevic V, Dwivedi K, Asaadi H, et al. "The quality of reporting in cardiac MRI artificial intelligence segmentation studies - a systematic review". In: *European Heart Journal - Cardiovascular Imaging*. Vol. 23. 2022.
- [85] **Alabed** S, Dwivedi K, Durrington C, Alandajani F, Condliffe R, Elliot C, Charalampopoulos A, Hameed A, Thompson R, Rothman A, et al. "Correlation of emPHasis-10 with clinical tests: insights from the ASPIRE registry". In: *Thorax*. Vol. 77. 2022.
- [86] **Alabed** S, Salehi M, Mohammad D, Ochieng L, Maiter A, Dwivedi K, Johns C, Hill C, Rajaram S, Tuner D, et al. "Cardiac findings on body CT: a review of 275,000 CT reports over the past 14 years". In: *Heart*. Vol. 108. 2022.
- [87] **Alabed** S, Salehi M, Dwivedi K, Swift A, and Karunasaagarar K. "Now you see: Cardiac findings on general CT". In: *Clinical Radiology*. Vol. 77. 2022.
- [88] Alandajani F, **Alabed** S, Garg P, Goh Z, Karunasaagarar K, Sharkey M, Salehi M, Aldabbagh Z, Dwivedi K, Metherall P, et al. "Training and Clinical Validation of Artificial Intelligence Derived Right Atrial Cardiovascular Magnetic Resonance Measurements". In: *American Thoracic Society*. 2022.
- [89] Gosling R, **Alabed** S, Swoboda P, Nagueh SF, Jones R, Rothman A, Wild JM, Kiely DG, Condliffe R, Swift AJ, and Garg P. "Cardiac magnetic resonance to identify raised left ventricular filling pressure". In: *Heart*. Vol. 107. 2021.
- [90] **Alabed** S, Karunasaagarar K, Garg P, Lu H, Wild J, Kiely D, Van Der Geest R, and Swift A. "A fully automated cardiac magnetic resonance (CMR) assessment improves the evaluation of patients with pulmonary arterial hypertension (PAH)". In: *European Respiratory Journal*. Vol. 58. 2021.
- [91] **Alabed** S, Karunasaagarar K, Garg P, Uthoff J, Metherall P, Sharkey M, Lu H, Wild J, Kiely D, Van Der Geest R, and Swift A. "Fully automated CMR derived stroke volume correlates with right heart catheter measurements in patients with suspected pulmonary hypertension". In: *European Heart Journal - Cardiovascular Imaging*. Vol. 22. 2021.
- [92] **Alabed** S, Karunasaagarar K, Garg P, Uthoff J, Metherall P, Sharkey M, Lu H, Wild J, Kiely D, Van Der Geest R, and Swift A. "High interstudy repeatability of automatic deep learnt biventricular CMR measurements". In: *European Heart Journal - Cardiovascular Imaging*. 2021.
- [93] **Alabed** S, Metherall P, Sharkey M, and Swift A. "Deep Learning derived T1-mapping values compared to manual assessment". In: *European Congress of Radiology*. 2021.
- [94] **Alabed** S, Wild J, Kiely D, and Swift A. "Cardiac MRI for Prognosis in Pulmonary Arterial Hypertension: A Systematic Review and Meta-Analysis". In: *European Respiratory Journal*. Vol. 56. 2020.

- [95] Goh Z, Balasubramanian N, **Alabed** S, Dwivedi K, Shahin Y, Rothman A, Garg P, Lawrie A, Wild J, Johns C, Kiely D, and Swift A. "Right ventricular remodelling assessed using cardiac magnetic resonance predicts survival and treatment response in pulmonary arterial hypertension". In: *Thorax*. Vol. 77. 2022.
- [96] **Alabed** S, Hocking K, Alhun U, Wright C, Hughes F, Balian V, Kabuli M, Kotnis N, and Connolly D. "Natural language processing to audit CT Head reports". In: *European Congress of Radiology*. 2021.
- [97] Abdulaal L, Dwivedi K, Sharkey M, **Alabed** S, Mamalakis M, Alkhanfar D, Condliffe R, Kiely D, and Swift A. "CT lung parenchymal appearances in chronic thromboembolic pulmonary hypertension (CTEPH)". In: *Thorax*. Vol. 77. 2022.
- [98] Dwivedi K, Lewis R, Condliffe R, Sharkey M, Mamalakis M, **Alabed** S, Wild J, Swift A, and Kiely D. "Computed Tomography (CT) Features Are of Diagnostic Utility in Pre Diagnosis Idiopathic Pulmonary Arterial Hypertension (IPAH): A Case Controlled Study". In: *American Thoracic Society*. 2021.
- [99] Mamalakis M, Dwivedi K, Sharkey M, **Alabed** S, Metherall P, Kiely D, and Swift A. "Deep Learning Approaches to Classify Lung Parenchymal Disease on CT Images". In: *American Thoracic Society*. 2021.
- [100] Sharkey M, Karunasaagarar K, Johns C, Rajaram S, Alkhanfar D, Dwivedi K, **Alabed** S, Metherall P, Geest RVD, Mamalakis M, Kiely D, and Swift A. "Fully Automatic Cardiac and Great Vessel Segmentation on CT Pulmonary Angiography (CTPA) Using Deep Learning". In: *American Thoracic Society*. 2021.
- [101] Uthoff J, **Alabed** S, Lawrie A, Kiely D, Lu H, and Swift A. "Sex bias exists in diagnosing pulmonary arterial hypertension via machine learning". In: *European Respiratory Journal*. Vol. 56. 2020.
- [102] Uthoff J, **Alabed** S, Swift A, and Lu H. "Geodesically Smoothed Tensor Features for Pulmonary Hypertension Prognosis using the Heart and Surrounding Tissues". In: *Medical Image Computing and Computer Assisted Intervention-MICCAI 2020*. 2020.
- [103] Alkhanfar D, Shahin Y, Alandejani F, **Alabed** S, Johns C, Rothman A, Garg P, Condliffe R, Quadery R, Kiely D, Wild J, and Swift A. "Serial cardiac MRI for assessment of cardiac morphology and function in CTEPH patients after PEA or vasodilator therapy". In: *European Respiratory Journal*. Vol. 56. 2020.
- [104] Alandejani F, Tubman E, Shahin Y, Lewis R, Dwivedi K, Alkhanfar D, **Alabed** S, Johns C, Garg P, Condliffe R, et al. "Cardiac MRI right atrial area measurement thresholds for risk stratification in patients with PAH". In: *European Respiratory Journal*. Vol. 56. 2020.
- [105] **Alabed** S, Hart A, and DJ. C. "Cost per diagnosis in early developmental impairment (EDI) – is magnetic resonance imaging (MRI) worth it?" In: *Clinical Radiology*. 2018.
- [106] **Alabed** S, Al Dakhoul S, Sabouni A, Bdaiwi Y, and Frobel-Mercier A. "Are beta-blockers effective in children with congestive heart failure?-A Cochrane review". In: *European Journal of Heart Failure*. Vol. 19. 2017.
- [107] **Alabed** S, Guul A, and Crichton C. "Diabetes among Palestinians in Syrian refugee camps: what is the reality of care?" In: *Cambridge Journal of Medicine*. 2013, Suppl 1.

ORAL PRESENTATIONS

2023	Large Language Model Mortality Prediction in CT Reports	Berlin
	» European Society of Cardiac Radiology	
2023	From automated cardiac measurements to auto reporting	London
	» Dragon's Den - Royal College of Radiologists	
2022	Quality of Reporting of Artificial Intelligence studies	Dubai, UAE
	» Royal College of Radiologists Global Conference	
2022	Cardiac Findings on General CT	Dubai, UAE
	» Royal College of Radiologists Global Conference	
2021	AI Cardiac MRI Measurements Clinical Benchmarking	Chicago, USA
	» Radiological Society of North America	
2021	Using AI to improve pulmonary hypertension assessment	London
	» National Pulmonary Hypertension Research Forum	
2021	The future of cardiac imaging	Sheffield
	» Yorkshire & Humber Chest and Cardiac Regional Study Day	
2021	Clinical Validation of Cardiac MRI AI Segmentation	Sheffield
	» School of Radiology - Yorkshire & Humber annual meeting	
	» Professor Ronald Grainger Memorial Meeting	
	» Clinical Imaging Clinical Research (CICR) meeting	
	» Department Research in Progress Meeting (DRIP)	
	» Sheffield Medical School Research Conference	
2021	Natural Language Processing in Radiology Audit	Leeds
	» Yorkshire School of Radiology Annual Conference	
2017	Cost per MRI diagnosis in developmental impairment	Liverpool
	» Royal College of Radiologists Annual Conference	
2015	CTPA detection rates in spinal cord injury	Bangor
	» Society of Radiologists in training Annual Conference	
2012	The Saïd Foundation Annual Dinner	London
	» Attended by UK Ministers, MPs, Lords and Ambassadors at The V&A Museum	

INTERNATIONAL POSTER PRESENTATIONS

ESCR 23	Radiology reports of cardiac MRI scans predict prognosis	Berlin
ESCR 22	Outcome prediction with CMR in pulmonary hypertension	Rome
ERS 22	Correlation of emPHasis-10 with clinical tests	Barcelona
EACVI 22	Quality of reporting in AI cardiac MRI segmentation studies	London
ECR 22	Reporting cardiac findings on body CT over the last decade	Vienna
SCMR 22	Time-resolved cardiac MRI prognostic feature extraction	Virtual
ERS 21	Automated CMR assessment in pulmonary hypertension	Virtual
EuroCMR21	High repeatability of deep learnt CMR measurements	Virtual
EuroCMR21	Automated CMR correlates with right heart catheter	Virtual
ECR 21	Deep Learning derived T1-mapping values	Virtual
ECR 21	Natural language processing to audit CT Head reports	Virtual
SCMR 21	Machine Learning in Cardiac MRI Predicts Mortality	Virtual
RSNA 20	Meta-analysis of T ₁ -mapping in pulmonary hypertension	Virtual
ERS 20	Cardiac MRI predicts prognosis in pulmonary hypertension	Virtual
ESC 17	Beta-blockers in children with congestive heart failure	Paris

STATISTICAL & CODING SKILLS

Software skills

- » **Python** fluent command of data management, analysis and visualisation
- » **R Language** used extensively for most common statistical tests
- » **SPSS** used extensively for most common statistical tests
- » **STATA** used extensively for diagnostic accuracy meta-analyses
- » **LaTeX** used the LaTeX typesetting system to write my PhD thesis

Statistics Courses

- » Statistics for Health Care Research - University of Oxford
- » Advanced Statistics for Health Researchers - University of Sheffield
- » Descriptive and exploratory data analysis - University of Hagen
- » Diagnostic accuracy meta-analysis - University of Birmingham
- » Python Data Analysis course - University of Sheffield
- » Data Analysis Skills for Researchers - University of Sheffield

LANGUAGES

Fluent	English
Fluent	German
Fluent	Arabic