

Cian M Scannell — Curriculum Vitae

☎ +447943961354 • ✉ c.m.scannell@tue.nl • 🌐 cianmscannell.github.io

Employment

- **Eindhoven University of Technology** **Netherlands**
2022-Current
Assistant Professor (Tenure-Track)
 - Medical Image Analysis group, Department of Biomedical Engineering.
- **King's College London** **United Kingdom**
2022-Current
Visiting Lecturer
 - Cardiovascular Imaging, School of Biomedical Engineering and Imaging Sciences.
- **King's College London** **United Kingdom**
2020-2022
Postdoctoral Research Associate
 - Research fellowship in the Wellcome/EPRSC Centre for Medical Engineering.
 - Project: Artificial Intelligence (AI)-enabled quantitative cardiac magnetic resonance in the clinic.

Education

- **King's College London** **United Kingdom**
2016–2020
MRes & PhD, Biomedical Engineering
 - Automated quantitative analysis of first-pass myocardial perfusion magnetic resonance imaging data.
- **The Alan Turing Institute** **United Kingdom**
2018–2019
Visiting (Enrichment) Student
- **University College Cork** **Ireland**
2012–2016
BSc (Hons), Mathematical Sciences
- **University of California, Santa Barbara** **USA**
2014–2015
EAP Student, Mathematics, Computer Science, Statistics.

Professional Activities

- Guest editor of the special issue on "The role of artificial intelligence in MRI/MRS acquisition and reconstruction" in Magnetic Resonance Materials in Physics, Biology and Medicine (MAGMA)
- Trainee member of the editorial board for Radiology: Artificial Intelligence.
- Journal article reviewer for Nature Communications, Medical Image Analysis, IEEE Transactions on Medical Imaging, Radiology: Artificial Intelligence, etc.

Invited Talks

- Deep Learning Techniques in Perfusion Imaging Seminar. International Society for Magnetic Resonance in Medicine (ISMRM) Perfusion Study Group, Online, September 2022.
- Special Interest Group Meeting on Quantitative Myocardial Perfusion, Society for Cardiovascular Magnetic Resonance (SCMR) Annual Meeting, Online, February 2022
- Statistics and Data Sciences Seminar. International Centre for Mathematical Sciences. Online, May 2021.
- Royal College of Physicians certified training course on stress perfusion cardiac MRI. Online, January 2021.
- International Application & Clinical Science Meeting. Philips Healthcare, Eindhoven, March 2020.
- Applied Mathematics Seminar. University of Oxford, February 2020.

Awards

- Finalist, Young Investigator Award. Irish Cardiac Society Annual Meeting, 2022.
- 3rd place, CMRxMotion challenge (for automated quality control and robust cardiac MRI segmentation) at Medical Image Computing and Computer Assisted Interventions (MICCAI) conference, 2022.
- ISMRM *summa cum laude* (top 5% of abstracts), 2019.
- ISMRM *magna cum laude* (top 15% of abstracts), 2020.
- Best Masters student presentation. Biomedical Engineering, King's College London, 2017.

Funding

- (Col) Automated non-invasive coronary artery disease detection using AI, Wellcome Trust Innovator Award. Value £504,936 over 2 years.
- (PI) Research fellowship (personal) Centre for Medical Engineering, King's College London. Value: £56,120.05.
- Alan Turing Institute enrichment placement award. Value: £5,723.
- ISMRM travel stipend 2020. Value: £650.
- ISMRM travel stipend 2019. Value: £650.

Supervision

- 1x Phd, 4x MSc and 4x BSc students at Eindhoven University of Technology.
- 1x Phd, 3x MSc and 1x BSc students at King's College London.

Publications

1. **Scannell CM**, Alskaf E, Sharrack N, Razavi R, Ourselin S, Young AA, Plein S, and Chiribiri A. "AI-AIF: artificial intelligence-based arterial input function correction for quantitative stress perfusion cardiac magnetic resonance." *European Heart Journal – Digital Health*. 2023.
2. Amirrajab S, Al Khalil Y, Pluim J, Breeuwer M, **Scannell CM** "Cardiac MR Image Segmentation and Quality Control in the Presence of Respiratory Motion Artifacts Using Simulated Data." *International Workshop on Statistical Atlases and Computational Models of the Heart*. 2023
3. Alskaf E, Dutta U, **Scannell CM**, Chiribiri A. "Deep learning applications in coronary anatomy imaging: a systematic review and meta-analysis." *Journal of Medical Artificial Intelligence*. 2022.
4. Lustermsans DRPRM, Amirrajab S, Veta M, Breeuwer M, **Scannell CM**. "Optimized Automated Cardiac MR Scar Quantification with GAN-Based Data Augmentation." *Computer Methods and Programs in Biomedicine*. 2022.
5. Alskaf E, Dutta U, **Scannell CM**, Chiribiri A. "Deep learning applications in myocardial perfusion imaging, a systematic review and meta-analysis." *Informatics in Medicine Unlocked*. 2022.
6. Lim RP, Kachel S, Villa ADM, Kearney L, Bettencourt N, Young AA, Chiribiri A, **Scannell CM**. "CardiSort: a convolutional neural network for cross vendor automated sorting of cardiac MR images." *European Radiology*. 2022.
7. van Herten RLM, Chiribiri A, Breeuwer M, Veta M, **Scannell CM**. "Physics-informed neural networks for myocardial perfusion MRI quantification." *Medical Image Analysis*. 2022.
8. Demir O, **Scannell CM**, Rahman H, Ryan M, Chiribiri A, Plein S, Perera D. "Cardiac Magnetic Resonance Perfusion Abnormality due to Anemia." *European Heart Journal-Cardiovascular Imaging*. 2022.
9. Doebelin D., Steinbeis F., **Scannell CM**, ..., Kelle S. "Brief research report: Quantitative analysis of potential coronary microvascular disease in suspected long-COVID syndrome." *Frontiers in Cardiovascular Medicine*. 2022.
10. Tourais J*, **Scannell CM***, ..., Correia T. "High-resolution free-breathing quantitative first-pass perfusion cardiac MR using dual-echo Dixon with spatio-temporal acceleration." *Frontiers in Cardiovascular Medicine*.

2022.

11. **Scannell CM***, Hasaneen H*, Greil G, Hussain T, Razavi R, Lee J, Pushparajah K, Duong P, Chiribiri A. "Automated quantitative stress perfusion cardiac magnetic resonance in paediatric patients." *Frontiers in Pediatrics*. 2021
12. Campello VM, ..., **Scannell CM**, ..., Lekadir K. "Multi-Centre, Multi-Vendor and Multi-Disease Cardiac Segmentation: The M&Ms Challenge." *IEEE Transactions on Medical Imaging*. 2021.
13. Rahman H, **Scannell CM**, Demir O, Ryan M, McConkey H, Ellis H, Masci PG, Perera D, Chiribiri A. "High resolution cardiac magnetic resonance imaging techniques for the identification of coronary microvascular dysfunction." *JACC Cardiovascular Imaging*. 2021.
14. **Scannell CM**, Chiribiri A, Veta M. "Domain-Adversarial Learning for Multi-Centre, Multi-Vendor, and Multi-Disease Cardiac MR Image Segmentation." *International Workshop on Statistical Atlases and Computational Models of the Heart*. 2020.
15. Lourenço A, Kerfoot E, Grigorescu I, **Scannell CM**, Varela M, & Correia TM. Automatic Myocardial Disease Prediction From Delayed-Enhancement Cardiac MRI and Clinical Information." *International Workshop on Statistical Atlases and Computational Models of the Heart*. 2020.
16. Rahman H, Demir OM, Ryan M, McConkey H, Ellis H, **Scannell C**, Chiribiri A, Webb A, Perera D. "Mechanisms of exertional angina in patients with normal coronary arteries." *Clinical Medicine*. 2020.
17. **Scannell CM**, Correia T, Villa ADM, Schneider T, Lee J, Breeuwer M, Chiribiri A, Henningsson M. "Feasibility of free-breathing quantitative myocardial perfusion using multi-echo Dixon magnetic resonance imaging." *Scientific Reports*. 2020.
18. Rahman H, Demir OM, Ryan M, McConkey H, **Scannell C**, Ellis H, Webb A, Chiribiri A, Perera D. "Optimal Use of Vasodilators for Diagnosis of Microvascular Angina in the Cardiac Catheterization Laboratory." *Circulation Cardiovascular Interventions*. 2020.
19. **Scannell CM**, Veta M, Villa ADM, Sammut EC, Lee J, Breeuwer M, Chiribiri A. "Deep-Learning-Based Preprocessing for Quantitative Myocardial Perfusion MRI." *Journal of Magnetic Resonance Imaging*. 2020.
20. **Scannell CM**, Chiribiri A, Villa ADM, Breeuwer M, Lee J. "Hierarchical Bayesian myocardial perfusion quantification." *Medical Image Analysis*. 2020.
21. Rahman H, Ryan M, Lumley M, Modi B, McConkey H, Ellis H, **Scannell C**, Clapp B, Marber M, Webb A, Chiribiri A, Perera D. "Coronary Microvascular Dysfunction Is Associated With Myocardial Ischemia and Abnormal Coronary Perfusion During Exercise." *Circulation*. 2019.
22. **Scannell CM**, Villa ADM, Lee J, Breeuwer M, Chiribiri A. "Robust Non-Rigid Motion Compensation of Free-Breathing Myocardial Perfusion MRI Data." *IEEE Transactions on Medical Imaging*. 2019.
23. Villa ADM, Corsinovi L, Ntalas I, Milidonis X, **Scannell C**, Di Giovine G, Child N, Ferreira C, Nazir MS, Karady J, Eshja E, De Francesco V, Bettencourt N, Schuster A, Ismail TF, Razavi R, Chiribiri A. "Importance of operator training and rest perfusion on the diagnostic accuracy of stress perfusion cardiovascular magnetic resonance." *Journal of Cardiovascular Magnetic Resonance*. 2018.

Book Chapters

1. **Scannell CM.**, Chiribiri A., Leiner T., "Artificial Intelligence: The Next Frontier of Perfusion Imaging?," in the book "Quantitative Perfusion MRI: Techniques, Applications and Practical Considerations", edited by Hai-Ling Margaret Cheng and Gustav Strijkers, published by Elsevier (in press).

Other output

1. International patent application number PCT/GB2021/052519 filed on AI for the evaluation of the arterial input function in myocardial perfusion MRI.