Cian Scannell | Curriculum Vitae

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Education

- **King's College London** — **United Kingdom**
  PhD, Biomedical Engineering — *2017–2020*
  - Automated analysis of stress perfusion cardiac MRI. Machine (deep) learning, image processing, Bayesian inference.
- **The Alan Turing Institute** — **United Kingdom**
  Visiting (Enrichment) Student — *2018–2019*
- **King's College London** — **United Kingdom**
  MRes, Biomedical Engineering, Degree Average 81% (GPA: 4.0). — *2016–2017*
  - Prize for best MRes student presentation.
- **University College Cork** — **Ireland**
  BSc (Hons), Mathematical Sciences, Degree Average 80% (GPA: 4.0). — *2012–2016*
  - Awarded Title of College Scholar for receiving First Class Honours in every year.
  - Winner of the prestigious Boole Prize, a mathematics lecturing competition.
- **University of California, Santa Barbara** — **USA**
  EAP Student, Mathematics, Computer Science, Statistics. — *2014–2015*
  - Dean's Honours List.

Employment

- **King's College London** — **United Kingdom**
  Research Fellow — *2020-Current*
  - Research fellow in the Wellcome/EPRSC Centre for Medical Engineering (`https://medicalengineering.org.uk/`).
  - Project: Artificial Intelligence (AI)-enabled quantitative cardiac magnetic resonance in the clinic.
- **King's College London** — **United Kingdom**
  Teaching Assistant — *2017-2019*
  - Object-oriented programming - an advanced programming module for 2nd year BEng students using C++.
  - Computational Methods - the foundations and implementation of a suite of numerical tools applied to solving modelling problems for 2nd year BEng students.
  - Computer programming - an introductory programming module for 1st year BEng students using MatLab.
  - Computational Statistics - the fundamental concepts of descriptive and inferential statistics for 1st year BEng students.
- **Tyndall National Institute** — **Ireland**
  Research Intern - Integrated Photonics Group — *2015*
  - Performed numerical analysis of photonic devices for use in optical communication.
  - Wrote object-oriented C++ code which carries out mode and propagation analysis for the design and optimization of optical waveguides.
- **UCC Mathematics Enrichment Programme** — **Ireland**
  Tutor — *2015–2016*
  - Trained students for Mathematical Olympiads, aimed to test and stimulate the creativity, intuition and mathematical skills of the participants.

Professional Activities

- Trainee member of the editorial board for Radiology: Artificial Intelligence.
- Journal article reviewer for Medical Image Analysis and Computer Methods and Programs in Biomedicine.

Invited Talks

- 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

- 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

- 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

- 2x MSc and 1x BSc students at Eindhoven University of Technology.
- 2x MSc and 1x BSc students at King's College London.

Publications

1. van Herten RLM, Chiribiri A, Veta M, **Scannell CM**. "Physics-informed neural networks for myocardial perfusion MRI quantification.". *arXiv Preprint arXiv:2011.12844*. 2020.
2. 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* 2020.
3. **Scannell CM**, Chiribiri A, Veta M. "Domain-Adversarial Learning for Multi-Centre, Multi-Vendor, and Multi-Disease Cardiac MR Image Segmentation." *arXiv Preprint arXiv:2008.11776*. 2020. (accepted at STACOM workshop, MICCAI 2020).
4. Lourenço A, Kerfoot E, Grigorescu I, **Scannell CM**, Varela M, & Correia TM. Automatic Myocardial Disease Prediction From Delayed-Enhancement Cardiac MRI and Clinical Information." *arXiv Preprint arXiv:2010.08469*. 2020. (accepted at STACOM workshop, MICCAI 2020).
5. **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.
6. 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.
7. **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.
8. **Scannell CM**, Chiribiri A, Villa ADM, Breeuwer M, Lee J. Hierarchical Bayesian myocardial perfusion quantification. *Medical Image Analysis*. 2020.
9. 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.
10. **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.
11. 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.

Under Review

1. **Scannell CM***, Hasaneen H*, Lee J, Pushparajah K, Duong P, Chiribiri, A. "Automated quantitative stress perfusion cardiac magnetic resonance in paediatric patients.".
2. **Scannell CM**, Zieschang V, Kelle S, Chiribiri A. "Inter-study repeatability of fully automated quantitative stress perfusion cardiac magnetic resonance.".
3. Campello VM, ..., **Scannell CM**, ..., Lekadir K. "Multi-Centre, Multi-Vendor and Multi-Disease Cardiac Segmentation: The M&Ms Challenge.".

Other output

1. UK Patent Application No. 2015381.3 filed on deep learning for the evaluation of the arterial input function in myocardial perfusion MRI.