

Dr. Alexander Richard Lyon
MA (Oxon) BM BCh (Oxon) PhD FRCP FHFA

Current Appointments

Senior Clinical Lecturer in Cardiology, Imperial College, London and Honorary Consultant Cardiologist, Royal Brompton Hospital, London
Adjunct Assistant Professor of Medicine, Mount Sinai School of Medicine, New York

Professional Positions

Lead for Heart Failure Research Theme, Cardiovascular Biomedical Research Unit, Royal Brompton Hospital (2011-2016)
Clinical Lead for Cardio-Oncology Service, Royal Brompton Hospital (2011-present)
Member of the ESC Heart Failure Association Board (elected April 2016-present)
Member of the ESC Cardio-Oncology Council (elected 2018-present)
Chair of HFA Cardio-Oncology Study Group (2016-present)
Chair of HFA Takotsubo Syndrome Study Group (2016-present)
President of the British Cardio-Oncology Society (2014- present)
Founding Chairman of UK Cardio-Oncology Consortium (2012-2014)
Member of Heart Failure Association Translational Research Committee (European Society of Cardiology: 2012-2016)
Co-chair of Heart Failure Association Takotsubo Syndrome Taskforce Committee (European Society of Cardiology: 2012-2016)
British Cardiovascular Society Programme Committee member (2014-present)
Academic and Research Committee of the British Cardiovascular Society (2014-present)
Advisor to MINAP regarding Takotsubo Syndrome (2014-present)
Cardiology advisor to Macmillan Cancer (2015-present)
ESC/ACC/AHA Taskforce Member for the Fourth universal definition of myocardial infarction (2016-present)
BHF Project Grant Committee Member (2016-present)
Associate editor of the European Journal of Heart Failure (2017-present)

Clinical Trials

UK National Coordinating Investigator for the first myocardial gene therapy trial in Europe for chronic heart failure: A Phase 2b, Double-Blind, Placebo-Controlled, Multinational, Multicenter, Randomized Study Evaluating the Safety and Efficacy of Intracoronary Administration of MYDICAR[®] (AAV1/SERCA2a) in Subjects with Heart Failure: **CUPID2 Trial** (ClinicalTrials.gov identifier: NCT00534703; EudraCT : 2012-001700-37).

Clinical Lead Investigator for the first myocardial gene therapy trial in patients with left ventricular assist devices: Investigation of the safety and efficacy of AAV1/SERCA2a gene transfer in patients with chronic heart failure and a left ventricular assist device: The **SERCA-LVAD** trial (ClinicalTrials.gov Identifier: NCT00534703; EudraCT : 2007-002809-48).

Co-PI for Renal denervation in heart failure with preserved ejection fraction trial (**RDT-PEF trial**) (NCT01840059)

UK National Lead Investigator for IDDEA-HF Trial, a phase 2 randomised, double-blind, placebo-controlled study to evaluate the cardiac and renal effects of short term treatment with Elamipretide in patients hospitalised with congestion due to heart failure (EUDRACTCT 2016-000126-19).

DSMB

Member of DSMB for the world's first HIV gene vaccine trial 2014-present.
Chair of the PROACT trial DSMB 2017-present
Chair of STEEER-AF Trial for ESC 2018-present

Conference and Event Organisation

Co-chair of Global Cardio-Oncology Summit 2017 – Royal College of Physicians 20-21 September 2017
Organiser and chair of the first Takotsubo Syndrome Patient Awareness Day in the UK July 2016
Chair and organiser of HFA Workshop on Targeting the Autonomic Nervous System in Heart Failure, Brussels March 2016
BCS Careers in Academic Cardiology February 2016 and December 2014

Qualifications

2015 FRCP
2008 PhD (Imperial College)
2002 MRCP (London)
1998 BM BCh (Oxon)
1995 BA (Oxon)

First Class, Physiological Sciences

Grants Awarded

- 2018 User Not Found. Wellcome Trust: Public Engagement Fund. Donovan, **Lyon** £34,000 (March-Dec 2018)
- 2017 Cardio-oncology: A high resolution national electronic health record investigation of the interplay between cancer and heart disease BHF-CRUK. Adlam and colleagues. **Lyon** co-I. £1.4M 1/6/2017 – 31/5/2022
- 2017 Heartfelt Technologies: Feasibility study of a new peripheral oedema monitor for heart failure patients: the Heartfelt-1 device. **Lyon** £56,174 (1.5 years)
- 2014 Celladon Corporation: Gene therapy trial research nurse support **£174,085**
- 2014 Cardiotoxicity collaboration with Pfizer. **Lyon**, Simonotto **£18,796**
- 2014 The Rosetrees Trust: Dissecting the antiarrhythmic mechanisms of SERCA2a gene therapy in the failing heart - the mitochondrial hypothesis **Lyon**, Simonotto **£11,793**
- 2013 Celladon Corporation collaboration in CUPID2 and SERCA-LVAD trials: **£390,021**
- 2013 BHF Clinical Research Training Fellowship FS/13/34/30173 for Dr. Andrew Morley-Smith: Investigation of partial left ventricular support in advanced heart failure. Morley-Smith, Simon, **Lyon**, Pepper **£178,810**
- 2013 HFA Nursing Fellowship to Sophie Welch – supervisors Riley, Wright and **Lyon** **£40,000**
- 2013 MRC/Imperial Confidence in Concept. A quantum-dot biosensor system for the detection of myocardial fibrosis biomarkers in clinical samples. Stevens, Howes, **Lyon**, Prasad **£106,614**.
- 2013 Imperial College BHF Centre for Cardiac Regeneration. Harding (PI), Schneider, Fisher; Gil, Terracciano, Gorelik **Lyon**, Rosenthal, Stevens, Mercola, Denning, Smith, Eschenhagen. **£2.5M**.
- 2012 NIHR Cardiovascular and Respiratory BRU Pump-Priming award: Non-invasive skeletal muscle tissue oxygenation index (TOI) measurement using near-infrared spectroscopy (NIRS) in patients with chronic heart or respiratory failure: a pilot study of TOI plasticity in treated subjects. **Lyon**, Hopkinson, Polkey **£19,000**
- 2011 BHF Intermediate Clinical Research Fellowship to **Dr. A. Lyon**. **£819,930**.
- 2010 EPSRC Grant to Professor Paul French, Dr. C. Dunsby, **Dr. A. Lyon**, Professor N. Peters and Professor Y. Itoh, Imperial College. **£1.1M**. Autofluorescence lifetime metrology for label-free readouts of heart disease and arthritis.
- 2010 Research grant to **Dr. A. Lyon**, Dr. Ken Macleod and Professor Sian Harding from Servier. **£182,834**. Effect of S44121 in a rat model of severe heart failure: evaluation of ventricular arrhythmia incidence and subcellular calcium physiology.
- 2010 BHF-REA Pilot Grant to Drs. **A. Lyon** and C. Dunsby, and Professors N. Peters and P. French, Imperial College. **£40,000** Real time in vivo optical structural and metabolic characterisation of cardiac tissue.
- 2010 Wellcome Trust Clinical PhD Fellowship to Dr. Markus Sikkell (PhD student – supervisors **A. R. Lyon**, K. M. Macleod, S. E. Harding). **£545,166**. Good and Bad Sparks – Identifying and targeting arrhythmogenic calcium sparks in the failing heart.
- 2009 British Heart Foundation Special Programme Award to Harding, **Lyon**, Flather and Birks. **£315,000**. Investigation of the safety and feasibility of SERCA gene transfer in the human failing heart using an adeno-associated viral vector. Oct 2009-2011.
- 2009 MRC Clinical Research Training Fellowship to Dr. Fu Siong Ng (PhD student – supervisors **A. R. Lyon** and N. S. Peters) **£126,577**. Modification of Infarct Morphology and Arrhythmogenicity by Peri-Infarction Modulation of Gap Junctional Function.
- 2009 Academy of Medical Sciences and Wellcome Trust - Starter Grant for Clinical Lecturers to **Dr. A. Lyon** **£30,000**.
- 2005 MRC Clinical Research Training Fellowship to **Dr. A. Lyon** (supervisors Professors Poole-Wilson and Harding) **£130,167**.

Consultancies and Advisory Boards

Servier, Novartis, Pfizer, Roche Pharmaceuticals, Astra Zeneca, Celladon Corporation, Amgen, Onyx Pharmaceuticals, Ferring Pharmaceuticals, Stealth Peptides, Eli-Lilly, Takeda

Publications (109 peer reviewed publications)

Fourth universal definition of myocardial infarction (2018). Thygesen K, Alpert JS, Jaffe AS, Chaitman BR, Bax JJ, Morrow DA, White HD; ESC Scientific Document Group (including **Lyon AR**). **Eur Heart J**. 2018 Aug 25. doi: 10.1093/eurheartj/ehy462.

Cardio-Oncology Services: rationale, organization, and implementation: A report from the ESC Cardio-Oncology council. Lancellotti P, Suter TM, López-Fernández T, Galderisi M, **Lyon AR**, Van der Meer P, Cohen Solal A, Zamorano JL, Jerusalem G, Moonen M, Aboyans V, Bax JJ, Asteggiano R. **Eur Heart J**. 2018 Aug 6. doi: 10.1093/eurheartj/ehy453.

Analysis of carfilzomib cardiovascular safety profile across relapsed and/or refractory multiple myeloma clinical trials. Chari A, Stewart AK, Russell SD, Moreau P, Herrmann J, Banchs J, Hajek R, Groarke J, **Lyon AR**, Batty GN, Ro S, Huang M, Iskander KS, Lenihan D. **Blood Advances** 2018 Jul 10;2(13):1633-1644. doi: 10.1182/bloodadvances.2017015545.

Heart failure resulting from cancer treatment: still serious but an opportunity for prevention. **Lyon AR**. **Heart**. Editorial 2018 Jul 4. pii: heartjnl-2018-313493. doi: 10.1136/heartjnl-2018-313493.

Role of Biomarkers in Prediction of Cardiotoxicity During Cancer Treatment. Tan LL, **Lyon AR**. **Curr Treat Options Cardiovasc Med**. 2018 Jun 19;20(7):55. doi: 10.1007/s11936-018-0641-z.

International Expert Consensus Document on Takotsubo Syndrome (Part I): Clinical Characteristics, Diagnostic Criteria, and Pathophysiology. Ghadri JR, Wittstein IS, Prasad A, Sharkey S, Dote K, Akashi YJ, Cammann VL, Crea F, Galiuto L, Desmet W, Yoshida T, Manfredini R, Eitel I, Kosuge M, Nef HM, Deshmukh A, Lerman A, Bossone E, Citro R, Ueyama T, Corrado D, Kurisu S, Ruschitzka F, Winchester D, **Lyon AR**, Omerovic E, Bax JJ, Meimoun P, Tarantini G, Rihal C, Y-Hassan S, Migliore F, Horowitz JD, Shimokawa H, Lüscher TF, Templin C. **Eur Heart J**. 2018 Jun 7;39(22):2032-2046.

International Expert Consensus Document on Takotsubo Syndrome (Part II): Diagnostic Workup, Outcome, and Management. Ghadri JR, Wittstein IS, Prasad A, Sharkey S, Dote K, Akashi YJ, Cammann VL, Crea F, Galiuto L, Desmet W, Yoshida T, Manfredini R, Eitel I, Kosuge M, Nef HM, Deshmukh A, Lerman A, Bossone E, Citro R, Ueyama T, Corrado D, Kurisu S, Ruschitzka F, Winchester D, **Lyon AR**, Omerovic E, Bax JJ, Meimoun P, Tarantini G, Rihal C, Y-Hassan S, Migliore F, Horowitz JD, Shimokawa H, Lüscher TF, Templin C. **Eur Heart J**. 2018 Jun 7;39(22):2047-2062.

Heart failure and preserved ejection fraction. Harper AR, Patel HC, **Lyon AR**. **Clin Med (Lond)**. 2018 Apr 1;18(Suppl 2):s24-s29.

Cardiomyocyte Membrane Structure and cAMP Compartmentation Produce Anatomical Variation in β_2 AR-cAMP Responsiveness in Murine Hearts. Wright PT, Bhogal NK, Diakonov I, Pannell LMK, Perera RK, Bork NI, Schobesberger S, Lucarelli C, Faggian G, Alvarez-Laviada A, Zaccolo M, Kamp TJ, Balijepalli RC, **Lyon AR**, Harding SE, Nikolaev VO, Gorelik J. **Cell Reports** 2018 Apr 10;23(2):459-469.

Cancer diagnosis in patients with heart failure: epidemiology, clinical implications and gaps in knowledge. Ameri P, Canepa M, Anker MS, Belenkov Y, Bergler-Klein J, Cohen-Solal A, Farmakis D, López-Fernández T, Lainscak M, Pudil R, Ruschitzka F, Seferovic P, Filippatos G, Coats A, Suter T, Von Haehling S, Ciardiello F, de Boer RA, **Lyon AR**, Tocchetti CG; Heart Failure Association Cardio-Oncology Study Group of the European Society of Cardiology. **Eur J Heart Fail**. 2018 May;20(5):879-887.

The Failing Heart Stimulates Tumor Growth by Circulating Factors. Meijers WC, Maglione M, Bakker SJL, Oberhuber R, Kieneker LM, de Jong S, Haubner BJ, Nagengast WB, **Lyon AR**, van der Vegt B, van Veldhuisen DJ, Westenbrink BD, van der Meer P, Silljé HHW, de Boer RA. *Circulation*. 2018 Feb 19. pii: CIRCULATIONAHA.117.030816. doi: 10.1161/CIRCULATIONAHA.117.030816.

Right heart dysfunction and failure in heart failure with preserved ejection fraction: mechanisms and management. Position statement on behalf of the Heart Failure Association of the European Society of Cardiology. Gorter TM, van Veldhuisen DJ, Bauersachs J, Borlaug BA, Celutkiene J, Coats AJS, Crespo-Leiro MG, Guazzi M, Harjola VP, Heymans S, Hill L, Lainscak M, Lam CSP, Lund LH, **Lyon AR**, Mebazaa A, Mueller C, Paulus WJ, Pieske B, Piepoli MF, Ruschitzka F, Rutten FH, Seferovic PM, Solomon SD, Shah SJ, Triposkiadis F, Wachter R, Tschöpe C, de Boer RA. **Eur J Heart Fail**. 2018 Jan;20(1):16-37.

Stress in a Dish: Exploring the Mechanisms of Takotsubo Syndrome. **Lyon A**. **J Am Coll Cardiol**. 2017 Aug 22;70(8):992-995. Editorial

The effect of head-up tilt upon markers of heart rate variability in patients with atrial fibrillation. Patel HC, Hayward C, Wardle AJ, Middleton L, **Lyon AR**, Di Mario C, Salukhe TV, Sutton R, Rosen SD. **Ann Noninvasive Electrocardiol**. 2017 Oct 15. [Epub ahead of print]

Hierarchical statistical techniques are necessary to draw reliable conclusions from analysis of isolated cardiomyocyte studies. Sikkil MB, Francis DP, Howard J, Gordon F, Rowlands C, Peters NS, **Lyon AR**, Harding SE, MacLeod KT. **Cardiovasc Res**. 2017 Dec 1;113(14):1743-1752.

The autonomic nervous system as a therapeutic target in heart failure: a scientific position statement from the Translational Research Committee of the Heart Failure Association of the European Society of Cardiology. van Bilsen M, Patel HC, Bauersachs J, Böhm M, Borggrefe M, Brutsaert D, Coats AJS, de Boer RA, de Keulenaer GW, Filippatos GS, Floras J, Grassi G, Jankowska EA, Kornet L, Lunde IG, Maack C, Mahfoud F, Pollesello P, Ponikowski P, Ruschitzka F, Sabbah HN, Schultz HD, Seferovic P, Slart RHJA, Taggart P, Tocchetti CG, Van Laake LW, Zannad F, Heymans S, **Lyon AR**. **Eur J Heart Fail**. 2017 Nov;19(11):1361-1378.

Takotsubo syndrome: aetiology, presentation and treatment. Kato K, **Lyon AR**, Ghadri JR, Templin C. **Heart** 2017 Sep;103(18):1461-1469.

Histologically Proven Myocardial Carcinoid Metastases: The Value of Multimodality Imaging. Studer Bruengger AA, Wechalekar K, Khattar R, Rosen SD, Robertus JL, Chau I, Morganstein D, Rosendahl U, **Lyon A**, Mohiaddin R. **Can J Cardiol**. 2017 Oct;33(10):1336.e9-1336.

Cardiac Atrophy and Heart Failure in Cancer. Sweeney M, Yiu A, **Lyon AR**. **Card Fail Rev**. 2017 Apr;3(1):62-65.

T-tubule remodelling disturbs localized β_2 -adrenergic signalling in rat ventricular myocytes during the progression of heart failure. Schobesberger S, Wright P, Tokar S, Bhargava A, Mansfield C, Glukhov AV, Poulet C, Buzuk A, Monzpart A, Sikkell M, Harding SE, Nikolaev VO, **Lyon AR**, Gorelik J. **Cardiovasc Res** 2017 Jun 1;113(7):770-782.

New medicinal products for chronic heart failure: advances in clinical trial design and efficacy assessment. Cowie MR, Filippatos GS, Alonso Garcia MLA, Anker SD, Baczynska A, Bloomfield DM, Borentain M, Bruins Slot K, Cronin M, Doevendans PA, El-Gazayerly A, Gimpelewicz C, Honarpour N, Janmohamed S, Janssen H, Kim AM, Lautsch D, Laws I, Lefkowitz M, Lopez-Sendon J, **Lyon AR**, Malik FI, McMurray JJV, Metra M, Figueroa Perez S, Pfeffer MA, Pocock SJ, Ponikowski P, Prasad K, Richard-Lordereau I, Roessig L, Rosano GMC, Sherman W, Stough WG, Swedberg K, Tyl B, Zannad F, Boulton C, De Graeff P. **Eur J Heart Fail**. 2017 Jun;19(6):718-727.

Cardiotoxicity Following Cancer Treatment Walls GM, **Lyon AR**, Harbinson MT, Hanna GG. **Ulster Med J**. 2017 86(1):3-9.

Proteasome Inhibitors as a Potential Cause of Heart Failure Koulaouzidis G, **Lyon AR**. **Heart Fail Clin**. 2017 13(2):289-295.

Effects of renal denervation on vascular remodelling in patients with heart failure and preserved ejection fraction: A randomised control trial. Patel HC, Hayward C, Keegan J, Gatehouse PD, Rajani R, Khattar RS, Mohiaddin RH, Rosen SD, **Lyon AR**, di Mario C. **JRSM Cardiovasc Dis**. 2017 Jan 1;6:2048004017690988. eCollection 2017 Jan-Dec.

A conducting polymer with enhanced electronic stability applied in cardiac models. Mawad D, Mansfield C, Lauto A, Perbellini F, Nelson GW, Tonkin J, Bello SO, Carrad DJ, Micolich AP, Mahat MM, Furman J, Payne D, **Lyon AR**, Gooding JJ, Harding SE, Terracciano CM, Stevens MM. **Sci Adv**. 2016 Nov 30;2(11):e1601007. doi: 10.1126/sciadv.1601007. eCollection 2016 Nov.

Gut microbial degradation of organophosphate insecticides induces glucose intolerance via gluconeogenesis. Velmurugan G, Ramprasath T, Swaminathan K, Mithieux G, Rajendhran J, Dhivakar M, Parthasarathy A, Babu DD, Thumburaj LJ, Freddy AJ, Dinakaran V, Puhari SS, Rekha B, Christy YJ, Anusha S, Divya G, Suganya K, Meganathan B, Kalyanaraman N, Vasudevan V, Kamaraj R, Karthik M, Jeyakumar B, Abhishek A, Paul E, Pushpanathan M, Rajmohan RK, Velayutham K, **Lyon AR**, Ramasamy S. **Genome Biol**. 2017 Jan 24;18(1):8. doi: 10.1186/s13059-016-1134-6.

Incidence and risk of hypertension in patients newly treated for multiple myeloma: a retrospective cohort study. Chari A, Mezzi K, Zhu S, Werther W, Felici D, **Lyon AR**. **BMC Cancer** 2016 Nov 22;16(1):912.

Enhancement of Gap Junction Function During Acute Myocardial Infarction Modifies Healing and Reduces Late Ventricular Arrhythmia Susceptibility. Ng FS, Kalindjian JM, Cooper SA, Chowdhury RA, Patel PM, Dupont E, **Lyon AR**, Peters NS. **JACC Clin Electrophysiol**. 2016 Oct;2(5):574-582.

Audit of a tertiary heart failure outpatient service to assess compliance with NICE guidelines Guha K, Allen CJ, Chawla S, Pryse-Hawkins H, Fallon L, Chambers V, Vazir A, **Lyon AR**, Cowie MR, Sharma R. **Clin Med (Lond)**. 2016 Oct;16(5):407-411.

Challenges of Chronic Cardiac Problems in Survivors of Takotsubo Syndrome Morley-Smith AC, **Lyon AR**. **Heart Fail Clin**. 2016 Oct;12(4):551-7.

Microdomain-Specific Modulation of L-Type Calcium Channels Leads to Triggered Ventricular Arrhythmia in Heart Failure Sanchez-Alonso JL, Bhargava A, O'Hara T, Glukhov AV, Schobesberger S, Bhogal N, Sikkell MB, Mansfield C, Korchev YE, **Lyon AR**, Punjabi PP, Nikolaev VO, Trayanova NA, Gorelik J. **Circ Res**. 2016 Sep 30;119(8):944-55.

2016 ESC Position Paper on cancer treatments and cardiovascular toxicity developed under the auspices of the ESC Committee for Practice Guidelines: The Task Force for cancer treatments and cardiovascular toxicity of the European Society of Cardiology (ESC). Zamorano JL, Lancellotti P, Rodriguez Muñoz D, Aboyans V, Asteggiano R, Galderisi M, Habib G, Lenihan DJ, Lip GY, **Lyon AR**, Lopez Fernandez T, Mohty D, Piepoli MF, Tamargo J, Torbicki A, Suter TM; Authors/Task Force Members; ESC Committee for Practice Guidelines (CPG). **Eur Heart J**. 2016 37(36):2768-2801.

A post-MI power struggle: adaptations in cardiac power occur at the sarcomere level alongside MyBP-C and RLC phosphorylation. Toepfer CN, Sikkell MB, Caorsi V, Vydyanath A, Torre I, Copeland O, **Lyon AR**, Marston SB, Luther PK, MacLeod KT, West TG, Ferenczi MA. **Am J Physiol Heart Circ Physiol**. 2016 Aug 1;311(2):H465-75.

Stressing the Importance of Cardiac Assessment in Pheochromocytoma. Morley-Smith AC, **Lyon AR**. **J Am Coll Cardiol**. 2016 May 24;67(20):2375-7. Editorial.

Cardio-Oncology: Concepts and practice. Cubbon RM, **Lyon AR**. **Indian Heart J**. 2016 Apr;68 Suppl 1:S77-85.

The evolving landscape of oral anti-arrhythmic prescriptions for atrial fibrillation in England: 1998-2014. Hayward C, Patel HC, Patel K, Di Mario C, **Lyon AR**, Ahsan SY, Rowland E. **Eur Heart J Cardiovasc Pharmacother**. 2016 Apr;2(2):90-4.

Cardio-Oncology Training: A Proposal From the International Cardioncology Society and Canadian Cardiac Oncology Network for a New Multidisciplinary Specialty. Lenihan DJ, Hartlage G, DeCara J, Blaes A, Finet JE, **Lyon AR**, Cornell RF, Moslehi J, Oliveira GH, Murtagh G, Fisch M, Zeevi G, Iakobishvili Z, Witteles R, Patel A, Harrison E, Fradley M, Curigliano G, Lenneman CG, Magalhaes A, Krone R, Porter C, Parasher S, Dent S, Douglas P, Carver J. **J Card Fail**. 2016 Jun;22(6):465-71.

Renal denervation in heart failure with preserved ejection fraction (RDT-PEF): a randomized controlled trial. Patel HC, Rosen SD, Hayward C, Vassiliou V, Smith GC, Wage RR, Bailey J, Rajani R, Lindsay AC, Pennell DJ, Underwood SR, Prasad SK, Mohiaddin R, Gibbs JS, **Lyon AR**, Di Mario C. **Eur J Heart Fail**. 2016 Jun;18(6):703-12.

Left atrial dilation in patients with heart failure and preserved ejection fraction: Insights from cardiovascular magnetic resonance. Vassiliou VS, Patel HC, Rosen SD, Auger D, Hayward C, Alpendurada F, **Lyon AR**, Pennell DJ, Di Mario C, Prasad SK. **Int J Cardiol**. 2016 May 1;210:158-60.

Calcium upregulation by percutaneous administration of gene therapy in patients with cardiac disease (CUPID 2): a randomised, multinational, double-blind, placebo-controlled, phase 2b trial. Greenberg B, Butler J, Felker GM, Ponikowski P, Voors AA, Desai AS, Barnard D, Bouchard A, Jaski B, **Lyon AR**, Pogoda JM, Rudy JJ, Zsebo KM. **Lancet**. 2016 387(10024):1178-86.

Cancer Therapy-Related Cardiac Dysfunction and Heart Failure: Part 2: Prevention, Treatment, Guidelines, and Future Directions. Hamo CE, Bloom MW, Cardinale D, Ky B, Nohria A, Baer L, Skopicki H, Lenihan DJ, Gheorghiade M, **Lyon AR**, Butler J. **Circ Heart Fail**. 2016 Feb;9(2):e002843. doi: 10.1161/CIRCHEARTFAILURE.115.002843.

Cancer Therapy-Related Cardiac Dysfunction and Heart Failure: Part 1: Definitions, Pathophysiology, Risk Factors, and Imaging. Bloom MW, Hamo CE, Cardinale D, Ky B, Nohria A, Baer L, Skopicki H, Lenihan DJ, Gheorghiade M, **Lyon AR**, Butler J. **Circ Heart Fail**. 2016 Jan;9(1):e002661. doi: 10.1161/CIRCHEARTFAILURE.115.002661.

Current state of knowledge on Takotsubo Syndrome: a Position Statement from the Taskforce on Takotsubo Syndrome of the Heart Failure Association of the European Society of Cardiology. **Lyon AR**, Bossone E, Schneider B, Sechtem U, Citro R, Underwood SR, Sheppard MN, Figtree GA, Parodi G, Akashi YJ, Ruschitzka F, Filippatos G, Mebazaa A, Omerovic E. **Eur J Heart Fail**. 2016 Jan;18(1):8-27.

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Use of cardiac MRI to diagnose Takotsubo syndrome. **Lyon AR**, Akashi YJ. **Nat Rev Cardiol**. 2015 Nov;12(11):669. doi: 10.1038/nrcardio.2015.155.

Microcirculatory dysfunction and autonomic disturbance in Takotsubo syndrome. Akashi YJ, **Lyon AR**. **Nat Rev Cardiol**. 2015 Aug;12(8):497. doi: 10.1038/nrcardio.2015.90.

High speed sCMOS-based oblique plane microscopy applied to the study of calcium dynamics in cardiac myocytes. Sikkell MB, Kumar S, Maioli V, Rowlands C, Gordon F, Harding SE, **Lyon AR**, MacLeod KT, Dunsby C. **J Biophotonics**. 2016 Mar;9(3):311-23.

Disparate worlds drawing closer together: cardiovascular biomarkers predict cancer outcomes in treatment-naïve patients. **Lyon AR**, **Heart**. 2015 Dec 1;101(23):1853-4. Editorial.

Myocardial edema in Takotsubo syndrome mimicking apical hypertrophic cardiomyopathy: An insight into diagnosis by cardiovascular magnetic resonance. Izgi C, Ray S, Nyktari E, Alpendurada F, **Lyon AR**, Rathore S, Baksi AJ. **Heart Lung**. 2015 Nov-Dec;44(6):481-5.

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Hayward C, Patel HC, Manohar SG, **Lyon AR**. **Ann Transl Med**. 2015 May;3

Epidemiology and pathophysiology of Takotsubo syndrome. Akashi YJ, Nef HM, **Lyon AR**. **Nature Review Cardiology** 2015 Jul;12(7):387-97.

Is high-dose catecholamine administration in small animals an appropriate model for takotsubo syndrome? - reply. Wright PT, Tranter MH, Morley-Smith A, **Lyon AR**. **Circulation Journal** 2015 Mar 25;79(4):898-9. doi:

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Magnitude of blood pressure reduction in the placebo arms of modern hypertension trials: implications for trials of renal denervation. Patel HC, Hayward C, Ozdemir BA, Rosen SD, Krum H, **Lyon AR**, Francis DP, di Mario C. **Hypertension**. 2015 Feb;65(2):401-6.

In vivo cardiovascular magnetic resonance diffusion tensor imaging shows evidence of abnormal myocardial laminar orientations and mobility in hypertrophic cardiomyopathy. Ferreira PF, Kilner PJ, McGill LA, Nielles-Vallespin S, Scott AD, Ho SY, McCarthy KP, Haba MM, Ismail TF, Gatehouse PD, de Silva R, **Lyon AR**, Prasad SK, Firmin DN, Pennell DJ. **J Cardiovasc Magn Reson**. 2014 Nov 12;16:87.

Nuclear pore rearrangements and nuclear trafficking in cardiomyocytes from rat and human failing hearts. Chahine MN, Mioulane M, Sikkell MB, O'Gara P, Dos Remedios CG, Pierce GN, **Lyon AR**, Földes G, Harding SE. **Cardiovascular Research** 2015 **105**(1):31-43.

Physiological, pharmacological and toxicological considerations of drug-induced structural cardiac injury. Cross MJ, Berridge BR, Clements PJ, Cove-Smith L, Force TL, Hoffmann P, Holbrook M, **Lyon AR**, Mellor HR, Norris AA, Pirmohamed M, Tugwood JD, Sidaway JE, Park KB. **Br J Pharmacol** 2015 Feb;172(4):957-74.

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Guest Editor

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Books and Book Chapters

Tranter M.H., and **Lyon A.R.**, Takotsubo Syndrome, 2018. In: Vasan R., Sawyer, D.(eds.) The Encyclopedia of Cardiovascular Research and Medicine, vol.[4], pp. 533-536. Oxford: Elsevier.

Morley-Smith A and **Lyon AR** Takotsubo cardiomyopathy. In Heart Failure – How to do it right. Ed. A. Maisel and G. Filippatos. Jaypee Brothers Medical Publishers

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Lyon AR, Thomas GT, Cobb VC and Mayet J. Cardiology: Churchill's Ready Reference. (Churchill Livingstone, Elsevier 2010).

Lyon AR & Poole-Wilson PA. What Causes of Heart Failure? Chapter 3 in 'Heart Failure' Ed. W. Abraham and H. Krum. (MacGraw Hill Medical, New York 2007)

Professional Organisations

Member of the British Cardiovascular Society (2002-present)

Member of the European Society of Cardiology (2008-present)

Member of the British Society for Cardiovascular Research (2008-present)

Member of the British Society of Heart Failure (2010-present)

Member of the International Society of Cardio-Oncology (2013-present)

Member of the British Cardio-Oncology Society (2014-present)

Fellow of the Royal College of Physicians (2015-present)

Fellow of the Heart Failure Association of the European Society of Cardiology (2016-present)

Peer Review

Grant reviewer for the Medical Research Council, British Heart Foundation, Heart UK, NHMRC (Australia) and Health Research Council of New Zealand.

I have reviewed manuscripts for the following journals: European Heart Journal, Heart, Cardiovascular Research, European Journal of Heart Failure, British Medical Journal, JACC, Circulation, Circulation Research, American Journal of Physiology, British Journal of Pharmacology, Europeace, Journal of Cardiac Failure, Cardiology and British Journal of Cardiology.

Public Engagement in Science

Lead cardiology advisor to Macmillan Cancer for their patient information pamphlet: Heart Health and Cancer treatment

Published October 2014: <http://be.macmillan.org.uk/be/p-22060-heart-health-and-cancer-treatment.aspx>

Interviews on the Today programme, BBC National News, Sky TV, Channel 4 News, BBC London and wide coverage in national press regarding the gene therapy trial programme.

Advisor to Dante or Die for the production of User Not Found – London Roundhouse and Edinburgh Festival 2018

Facebook live interview for the charity Keep it Pumping on Heart Failure - Rome ESC 2016 – 200,000+ views

Organiser and chair of the first Takotsubo Syndrome Patient Awareness Day in the UK July 2016

Cafe Scientifique at Royal Brompton Hospital 2012.

Annual host of local school students in the HEFCE Y12 Medical Sciences Summer School, teaching about heart structure and function using demonstrations of isolated heart and isolated cardiomyocyte preparations.

Teaching 4 year old primary school children at a local state primary school reception class about healthy lifestyle and the heart (Belleville School, Battersea) 2011, 2013 and 2017.

Speaker at Arrhythmia Awareness Week Patient Event hosted at the Royal Brompton Hospital.

Teaching and Education

My first twelve PhD students have successfully completed their studies and were awarded their theses within 4 years of registration:

Dr. Fu Siong (Winner of the Heart Rhythm Congress Young Investigators Prize 2009)

Dr Helen Paur

Dr. Peter Wright

Dr. Markus Sikkell (winner of NHLI PhD thesis prize).

Dr. Mike Debney

Dr. Adam Mills

Dr. Hitesh Patel

Dr. Matt Tranter

Dr. Carl Hayward

Dr. Ben Dyer

Dr. Maeve Elder

Dr. Andrew Morley-Smith

I currently co-supervise two Imperial College PhD students.

Sophie Welch and Angela Yiu

I have previously supervised four MRes students and two BSc students at Imperial College.

In the online feedback survey from the Imperial College BSc medical students in 2010, 12/15 students rated my lectures in the top category for quality.

I give lectures in the following Imperial College courses:

BSc Cardiovascular module in Medical school – 4-6 lectures per annum

BHF-REA MRes-PhD course in Cardiovascular medicine

MRes in Drug Discovery & Development. Dept of Chemistry

Invited Lectures (2014-2018)

Cardiology Grand Round, Leuven University Hospital, Belgium 2018
Heart Failure Association Postgraduate Course, Zurich, Switzerland 2018
Immunotherapy Meeting, Royal Marsden Hospital 2018
Tyrosine Kinase Inhibitor Meeting, Royal Marsden Hospital 2018
Allan Ross Memorial Lecture, Innsbruck, Austria 2018
Lloyd Roberts Lecture, Medical Society of London 2018
Andrew Rae Gilchrist Cardiology Lecture, RCPE Edinburgh 2017
NCD Alliance 2nd Forum, Sharjah, UAE 2017
BSH Annual Meeting London 2017
Association of Local Authority Medical Advisers (ALAMA) Conference 2017
5th Cardiology Highlights - the ESC Update Meeting Dubrovnik 2017
ESC Summer Congress, Barcelona 2017
Vanderbilt Cardiology Round, Nashville USA 2017
RCP Teach-In Heart Failure London 2017
HFA Summer Congress, Paris 2017
ESTHER Breast cancer trial meeting Birmingham 2017
Bristol Cardiology HF Meeting 2017
Cardiac Society of India HF Meeting, India 2017
Advanced Heart Failure, RCP London 2017
18th Integrated Management of Acute and Chronic CV Disease, Innsbruck, Austria 2017
BSH Annual Meeting London 2016
Cancer Anaesthesia Conference, London 2016
Guys Hospital Haematology Academic meeting 2016
STOP-6 Urology Meeting Lisbon 2016
Global Cardio-Oncology Summit, Vancouver, Canada 2016
West Midlands Blood Club, Birmingham 2016
Paavo Nurmi Symposium, Turku, Finland 2016
ESC Summer Congress, Rome, Italy 2016
IMS P&MA Conference, London 2016
BCS Annual Scientific Conference, Manchester 2016
HFA Summer Congress, Florence, Italy 2016
Cardiovascular Medicine Lunchtime Seminar, University of Oxford 2016
EMA and ESC workshop on CHF guidelines, London 2016
4 Corners of Cardiology, Melbourne Australia 2016
HFA Winter Scientific Meeting, Switzerland 2016
Memorial Sloane Kettering Hospital, New York, USA 2015
Mount Sinai Hospital, New York 2015
Global Cardio-Oncology Summit, Nashville, Tennessee, USA 2015
ESC Scientific Congress, London, UK 2015
BCS Annual Scientific Conference, Manchester UK 2015
HFA Summer Congress, Seville, Spain 2015
SRATI ICU Conference, Bucharest, Romania 2015
HFA Translation Science Committee Workshop, Brussels, Belgium 2015
UKEIRI/ISHR India Section Conference in AIIMS, Delhi India 2015
French Society of Cardiology Annual Meeting, Paris, France 2015
HFA Winter Meeting, Switzerland 2014 + 2015
SFTCG meeting Toulouse, France 2014
HFA Summer Congress, Athens, Greece 2014
BCS Annual Scientific Conference, Manchester UK 2014
UK MINAP Roadshows x4
ESC Scientific Congress, Barcelona, Spain 2014
Mediterranean School of Cardiovascular Sciences, Naples, Italy 2014