

# Georgina M. Ellison-Hughes, BSc (Hons), PhD, FRSB

## Curriculum Vitae

### PERSONAL DETAILS

Date of Birth: 2<sup>nd</sup> May 1978  
Sex: Female  
Nationality: British  
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### EDUCATION & PROFESSIONAL QUALIFICATIONS

BSc Sports Science (Physiology), 1<sup>st</sup> Class Honours, Liverpool JM University 1997-2000  
PhD 'Myocyte death and renewal in skeletal and cardiac muscle', Liverpool JM University. 2001-2004  
Supervisor – Prof. David F. Goldspink

### FELLOWSHIPS

American Heart Association Post-doctoral Fellowship 2005-2007  
Marie Curie International Re-Integration Grant and Fellowship 2008-2012  
Fellow of the Royal Society of Biology 2017-date

### CURRENT POST

**Professor of Regenerative Muscle Physiology** 09/2019 – date  
School of Basic & Medical Biosciences  
Centre for Human & Applied Physiological Sciences  
Faculty of Life Sciences & Medicine  
King's College London, UK

**Deputy Director, Centre for Human & Applied Physiological Sciences** 10/2017-date  
**School Academic Lead for Development, Diversity & Inclusion** 05/2018-date

### PREVIOUS EMPLOYMENT

**Post-doctoral researcher** 11/2003 - 04/2005  
Cardiovascular Research Institute, New York Medical College, Valhalla, New York, USA

**Post-doctoral Fellow (AHA funded)** 04/2005 – 08/2007  
Cardiovascular Institute, Mount Sinai School of Medicine, New York City, USA

**Lecturer/Senior Lecturer/Reader** 09/2007 – 04/2013  
Stem Cell & Regenerative Biology Unit, Liverpool JM University, Liverpool, UK

**Reader in Physiology** 01/2013 – 08/2019  
Centre for Human & Applied Physiological Sciences & Centre for Stem Cells & Regenerative Medicine  
School of Basic & Medical Biosciences  
Faculty of Life Sciences & Medicine  
King's College London, UK

### PUBLICATIONS (key manuscripts highlighted)

**Total Impact Factor = 510; Sum of Times Cited = 4750; Average Citation/item = 65; H-index = 36 (Scopus)**

- Salerno, N.; Scalise, M.; Marino, F.; Filardo, A.; Chiefalo, A.; Panuccio, G.; Torella, M.; De Angelis, A.; De Rosa, S.; **Ellison-Hughes, G.M.**; Urbanek, K.; Viglietto, G.; Torella, D.; Cianflone, E. (2023) A Mouse Model of Dilated Cardiomyopathy Produced by Isoproterenol Acute Exposure Followed by 5-Fluorouracil Administration. *J. Cardiovasc. Dev. Dis.* 10, 225. <https://doi.org/10.3390/jcdd10060225>
- Suda M, Paul KH, Minamino T, Miller JD, Lerman A, **Ellison-Hughes GM**, Tchkonina T, Kirkland JL. Senescent

Cells: A Therapeutic Target in Cardiovascular Diseases. *Cells*. 2023; 12(9):1296.

<https://doi.org/10.3390/cells12091296>

3. Sunderland P, Alshammari L, Ambrose E, Torella D, **Ellison-Hughes GM**. (2023) Senolytics rejuvenate the reparative activity of human cardiomyocytes and endothelial cells. *J Cardiovasc Aging*. 3:21. DOI: 10.20517/jca.2023.07. <https://doi.org/10.20517/jca.2023.07>
4. Battey E, Ross JA, Hoang A, Wilson DGS, Han Y, Levy Y, Pollock RD, Kalakoutis M, Pugh JN, Close GL, **Ellison-Hughes GM**, Lazarus NR, Iskratsch T, Harridge SDR, Ochala J, Stroud MJ. (2023) Myonuclear alterations associated with exercise are independent of age in humans. *J Physiol*. doi: 10.1113/JP284128. <https://doi.org/10.1113/JP284128>
5. Ruchaya PJ, Lewis-McDougall FC, Sornkarn N, Amin S, Gritti G, Cottle BJ, Clark JE, **Ellison-Hughes GM**. (2022). Transplantation of Sca-1+/PW1+Pax7- skeletal muscle-derived interstitial progenitor cells (PICs) improves cardiac function and attenuates adverse remodelling after myocardial infarction in mice. *Cells*. 11(24), 4050. <https://doi.org/10.3390/cells11244050>
6. Walmsley R, Steele DS, **Ellison-Hughes GM**, Papaspyros S, Smith AJ. (2022) Imatinib mesylate induces necroptotic cell death and impairs autophagic flux in human cardiac progenitor cells. *International Journal of Molecular Sciences*. 23(19), 11812. <https://doi.org/10.3390/ijms231911812>
7. Smith AJ, Ruchaya PJ, Walmsley R, Wright KE, Lewis-McDougall FC, Bond JM, **Ellison-Hughes GM**. (2022). Receptor tyrosine kinase inhibitors negatively impact on pro-reparative characteristics of human cardiac progenitor cells. *Sci Rep*, 12:10132. <https://doi.org/10.1038/s41598-022-13203-3>
8. Francis TG, Jaka O, **Ellison-Hughes GM**, Lazarus NR, Harridge SDR (2022). Human primary skeletal muscle-derived myoblasts and fibroblasts reveal different senescent phenotypes *JCSM Rapid Communications* <https://doi.org/10.1002/rco2.67>
9. **Ellison-Hughes GM**. (2022). The use of targeted LNP/mRNA technology to generate functional, transient CAR T cells and treat cardiac injury in vivo. *J Cardiovasc Aging* 2022;2:23. <https://DOI/10.20517/jca.2022.05> *Invited Commentary*.
10. Shaalan AK & **Ellison-Hughes GM**. (2022). A protocol for extracting immunolabeled murine cardiomyocytes of high-quality RNA by laser capture microdissection. *STAR Protocols*. Cell Press. Volume 3, Issue 1, 101231, ISSN 2666-1667, <https://doi.org/10.1016/j.xpro.2022.101231>
11. Marino, F., Scalise, M., Salerno, N., Salerno, L., Molinaro, C., Cappetta, D., Torella, M., Greco, M., Foti, D., Sasso, F. C., Mastroberardo, P., De Angelis, A., **Ellison-Hughes, G. M.**, Sampaolesi, M., Rota, M., Rossi, F., Urbanek, K., Nadal-Ginard, B., Torella, D., & Cianflone, E. (2022). Diabetes-Induced Cellular Senescence and Senescence-Associated Secretory Phenotype Impair Cardiac Regeneration and Function Independently of Age. *Diabetes*, db210536. Advance online publication. <https://doi.org/10.2337/db21-0536>
12. Zhu R, Yan T, Feng Y, Liu Y, Cao H, Peng G, Yang Y, Xu Z, Liu J, Hou W, Wang X, Li Z, Deng L, Wang S, Li J, Han Q, Li H, Shan G, Cao Y, An X, Yan J, Zhang Z, Li H, Qu X, Zhu J, Zhou S, Wang J, Zhang F, Gao J, Jin R, Xu D, Ma YQ, Huang T, Peng S, Zheng Z, Stambler I, Gilson E, Lim LW, Moskalev A, Cano A, Chakrabarti S, Ulfhake B, Su H, Xu H, Xu S, Wei F, Brown-Borg HM, Min KJ, **Ellison-Hughes G**, Caruso C, Jin K, Zhao RC. (2021). Mesenchymal stem cell treatment improves outcome of COVID-19 patients via multiple immunomodulatory mechanisms. *Cell research*, 31(12), 1244–1262. <https://doi.org/10.1038/s41422-021-00573-y>
13. **Ellison-Hughes, G. M.**, Colley, L., O'Brien, K. A., Roberts, K. A., Agbaedeng, T. A., & Ross, M. D. (2020). The Role of MSC Therapy in Attenuating the Damaging Effects of the Cytokine Storm Induced by COVID-19 on the Heart and Cardiovascular System. *Frontiers in cardiovascular medicine*, 7, 602183. <https://doi.org/10.3389/fcvm.2020.602183> *Invited Review*.
14. Roberts, K. A., Colley, L., Agbaedeng, T. A., **Ellison-Hughes, G. M.**, & Ross, M. D. (2020). Vascular Manifestations of COVID-19 - Thromboembolism and Microvascular Dysfunction. *Frontiers in cardiovascular medicine*, 7, 598400. <https://doi.org/10.3389/fcvm.2020.598400> *Invited Review*.
15. **Ellison-Hughes G. M.** (2020). Senescent cells: targeting and therapeutic potential of senolytics in age-related diseases with a particular focus on the heart. *Expert opinion on therapeutic targets*, 24(9), 819–823. <https://doi.org/10.1080/14728222.2020.1798403>
16. **Ellison-Hughes GM**. (2020). First evidence that senolytics are effective at decreasing senescent cells in humans. *EBioMedicine*. 2020 Jun; 56: 102473. doi: 10.1016/j.ebiom.2019.09.053. [https://www.thelancet.com/pdfs/journals/ebiom/PIIS2352-3964\(19\)30641-3.pdf](https://www.thelancet.com/pdfs/journals/ebiom/PIIS2352-3964(19)30641-3.pdf)
17. Zikuan Leng, Rongjia Zhu, Wei Hou, Yingmei Feng, Yanlei Yang, Qin Han, Guangliang Shan, Fanyan Meng,

- Dongshu Du, Shihua Wang, Junfen Fan, Wenjing Wang, Luchan Deng, Hongbo Shi, Hongjun Li, Zhongjie Hu, Fengchun Zhang, Jinming Gao, Hongjian Liu, Xiaoxia Li, Yangyang Zhao, Kan Yin, Xijing He, Zhengchao Gao, Yibin Wang, Bo Yang, Ronghua Jin, Ilia Stambler, Lee Wei Lim, Huanxing Su, Alexey Moskalev, Antonio Cano, Sasanka Chakrabarti, Kyung-Jin Min, **Georgina Ellison-Hughes**, Calogero Caruso, Kunlin Jin, Robert Chunhua Zhao. (2020) Transplantation of ACE2- Mesenchymal Stem Cells Improves the Outcome of Patients with COVID-19 Pneumonia. *Aging and Disease*.11: 216-228. <https://doi.org/10.14336/AD.2020.0228>
18. Scalise M, Torella M, Marino F, Ravo M, Giurato G, Vicinanza C, Cianflone E, Mancuso T, Aquila I, Salerno L, Nassa G, Agosti V, De Angelis A, Urbanek K, Veltri P, Paolino D, Mastroroberto P, De Feo M, Viglietto G, Weisz A, Nadal-Ginard B, **Ellison-Hughes GM**, Torella D. (2020) Atrial Myxomas Arise From Multipotent Cardiac Stem Cells. *European Heart Journal*. 41(45), pp. 4332–4345. DOI: 10.1093/eurheartj/ehaa156. *Corresponding author*.
  19. Cianflone, E., Torella, M., Biamonte, F., De Angelis, A., Urbanek, K., Costanzo, F. S., Rota, M., **Ellison-Hughes, G. M.**, & Torella, D. (2020). Targeting Cardiac Stem Cell Senescence to Treat Cardiac Aging and Disease. *Cells*, 9(6), 1558. <https://doi.org/10.3390/cells9061558>
  20. **Ellison-Hughes, G. M.**, & Torella, D. (2020). Editorial commentary: The cardiac regeneration interchange. *Trends in cardiovascular medicine*, 30(6), 344–345. <https://doi.org/10.1016/j.tcm.2019.09.007>
  21. Aquila I, Cianflone E, Scalise M, Marino F, Mancuso T, Filardo A, Smith AJ, Cappetta D, De Angelis A, Urbanek K, Isidori AM, Torella M, Agosti V, Viglietto G, Nadal-Ginard B, **Ellison-Hughes GM**, Torella D. (2019) c-kit Haploinsufficiency impairs adult cardiac stem cell growth, myogenicity and myocardial regeneration. *Cell Death Dis*. 10:436. doi: 10.1038/s41419-019-1655-5. *Corresponding author*.
  22. Lewis-McDougall FC, Ruchaya PJ, Domenjo-Vila E, Teoh TS, Prata L, Cottle BJ, Clark JE, Punjabi PP, Awad W, Torella D, Tchkonja T, Kirkland J, **Ellison-Hughes GM**. (2019) Aged-senescent cells contribute to impaired heart regeneration. *Aging Cell*. 18: e12931. DOI: 10.1111/acer.12931. *Corresponding author. TOP CITED ARTICLE 2019-2020*.
  23. Lewis FC, Cottle BJ, Shone V, Marazzi G, Sassoon D, Tseng CCS, Dankers PYW, Chamuleau SAJ, Nadal-Ginard B. **Ellison-Hughes GM**. (2017). Transplantation of Allogeneic PW1pos/Pax7neg Interstitial Cells (PICs) Enhance Endogenous Repair of Injured Porcine Skeletal Muscle. *JACC: Basic to Translational Science*.2:717-736. DOI: 10.1016/j.jacbts.2017.08.002. *Corresponding author*.
  24. Lewis FC, Kumar SD, **Ellison-Hughes GM**. (2017) Non-invasive strategies for stimulating endogenous repair and regenerative mechanisms in the damaged heart. *Pharmacol Res*. pii: S1043-6618(17)30360-2. doi: 10.1016/j.phrs.2017.08.016.
  25. Vicinanza C, Aquila I, Scalise M, Cristiano F, Marino F, Cianflone E, Mancuso T, Marotta P, Sacco W, Lewis FC, Couch L, Shone V, Gritti G, Torella A, Smith AJ, Terracciano CMN, Britti D, Veltri P, Indolfi C, Nadal-Ginard B, **Ellison-Hughes GM**, Torella D. (2017) Adult Cardiac Stem Cells are Multipotent and Robustly Myogenic: c-kit Expression is Necessary but not Sufficient for their Identification. *Cell Death & Differentiation*, 24:2101-2116. doi: 10.1038/cdd.2017.130. *Corresponding author*.
  26. Agle CC, Lewis FC, Jaka O, Lazarus NR, Velloso C, Francis-West P, **Ellison-Hughes GM** and Harridge SDR. (2017) Active GSK3 $\beta$  and an intact  $\beta$ -catenin TCF complex are essential for the differentiation of human myogenic progenitor cells. *Scientific Reports*. 7:13189. doi: 10.1038/s41598-017-10731-1.
  27. Cottle BJ, Lewis FC, Shone V, **Ellison-Hughes GM**. (2017) Skeletal muscle-derived interstitial progenitor cells (PICs) display stem cell properties, being clonogenic, self-renewing and multi-potent in vitro and in vivo. *Stem Cell Research & Therapy*. 8:158. doi: 10.1186/s13287-017-0612-4. *Corresponding author*.
  28. Leong YY, Ng WH, **Ellison-Hughes GM** and Tan JJ. (2017) Cardiac Stem Cells for Myocardial Regeneration: They are not alone. *Frontiers in Cardiovascular Medicine*. doi: 10.3389/fcvm.2017.00047
  29. **Ellison-Hughes GM** & Madeddu P. (2016) Exploring pericyte and cardiac stem cell secretome unveils new tactics for drug discovery. *Pharmacol Ther*. 171:1-12. doi: 10.1016/j.pharmthera.2016.11.007
  30. Wilson MG, **Ellison GM**, Cable NT. (2016) Basic science behind the cardiovascular benefits of exercise. *Br J Sports Med*. 50:93-99. doi: 10.1136/bjsports-2014-306596rep.
  31. Wilson MG, **Ellison GM**, Cable NT. (2015) Basic science behind the cardiovascular benefits of exercise. *Postgrad Med J*;91:704-711. doi: 10.1136/postgradmedj-2014-306596rep.
  32. Wilson MG, **Ellison GM**, Cable NT. (2015) Basic science behind the cardiovascular benefits of exercise. *Heart*. 101:758-765.
  33. Waring CD, Henning BJ, Smith AJ, Nadal-Ginard B, Torella D, **Ellison GM** (2015). Cardiac adaptations from 4 weeks of intensity-controlled vigorous exercise are lost after a similar period of detraining. *Physiol Rep*. 3. pii:

e12302. doi: 10.14814/phy2.12302. *Corresponding author.*

34. Nadal-Ginard B, **Ellison GM**, and Torella D. (2014). Response to Molkenkin's letter to the editor regarding article, "the absence of evidence is not evidence of absence: the pitfalls of Cre knock-ins in the c-kit locus". *Circ Res.* 115:e38-9. doi: 10.1161/CIRCRESAHA.115.305380.
35. Nadal-Ginard B, **Ellison GM**, and Torella D. (2014). The Absence of Evidence Is Not Evidence of Absence: The Pitfalls of Cre Knock-Ins in the C-Kit Locus. *Circ Res.* 115:415-418. doi: 10.1161/CIRCRESAHA.114.304676.
36. Smith AJ, Lewis FC, Aquila I, Waring CD, Nocera A, Agosti V, Nadal-Ginard B, Torella D, **Ellison GM**. (2014) Isolation and characterization of resident endogenous c-Kit(+) cardiac stem cells from the adult mouse and rat heart. *Nat Protoc.* 9: 1662-1681. doi: 10.1038/nprot.2014.113. *Corresponding author.*
37. Nadal-Ginard B, **Ellison GM**, Torella D. (2014) The cardiac stem cell compartment is indispensable for myocardial cell homeostasis, repair and regeneration in the adult. *Stem Cell Res.* Apr 29. pii: S1873-5061(14)00044-0. doi: 10.1016/j.scr.2014.04.008.
38. Lewis FC, Henning BJ, Marazzi G, Sassoon D, **Ellison GM**, Nadal-Ginard B. (2014) Porcine Skeletal Muscle-Derived Multipotent PW1pos/Pax7neg Interstitial Cells: Isolation, Characterization, and Long-Term Culture. *Stem Cells Transl Med.* 3: 702-712. doi: 10.5966/sctm.2013-0174. *Co-corresponding author*
39. Torella D, **Ellison GM**, Torella M, Vicinanza C, Aquila I, Iaconetti C, Scalise M, Marino F, Henning BJ, Lewis FC, Gareri C, Lascar N, Cuda G, Salvatore T, Nappi G, Indolfi C, Torella R, Cozzolino D, Sasso FC. (2014) Carbonic anhydrase activation is associated with worsened pathological remodeling in human ischemic diabetic cardiomyopathy. *J Am Heart Assoc.* 3: e000434. doi: 10.1161/JAHA.113.000434.
40. Torella D, **Ellison GM**, Nadal-Ginard B. (2014) Adult c-kit(pos) cardiac stem cells fulfill Koch's postulates as causal agents for cardiac regeneration. *Circ Res.* 114: e24-26. doi: 10.1161/CIRCRESAHA.113.303313.
41. Koudstaal S, Bastings MM, Feyen DA, Waring CD, van Slochteren FJ, Dankers PY, Torella D, Sluijter JP, Nadal-Ginard B, Doevendans PA, **Ellison GM**, Chamuleau SA. (2014) Sustained delivery of insulin-like growth factor-1/hepatocyte growth factor stimulates endogenous cardiac repair in the chronic infarcted pig heart. *J Cardiovasc Transl Res.* 7: 232-241. doi: 10.1007/s12265-013-9518-4.
42. **Ellison GM**. (2014) Regenerative pharmacology. *Clinical pharmacology and therapeutics.* 94: 624-625.
43. **Ellison GM**, Vicinanza C, Smith AJ, Aquila I, Leone A, Waring CD, Henning BJ, Stirparo GG, Papait R, Scarfo M, Agosti V, Viglietto G, Condorelli G, Indolfi C, Ottolenghi S, Torella D & Nadal-Ginard B (2013). Adult c-kit<sup>pos</sup> Cardiac Stem Cells Are Necessary and Sufficient for Functional Cardiac Regeneration and Repair. *Cell*, 154: 827-842. doi: 10.1016/j.cell.2013.07.039.
44. Curcio A, Torella D, Iaconetti C, Pasceri E, Sabatino J, Sorrentino S, Giampà S, Micieli M, Polimeni A, Henning BJ, Leone A, Catalucci D, **Ellison GM**, Condorelli G, Indolfi C. (2013) MicroRNA-1 Downregulation Increases Connexin 43 Displacement and Induces Ventricular Tachyarrhythmias in Rodent Hypertrophic Hearts. *PLoS One.* 8: e70158. doi: 10.1371/journal.pone.0070158.
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46. Godfrey R, Theologou T, Dellegrottaglie S, Sukumaran B, Wright DJ, Whyte, G, **Ellison G**. (2013) The effect of high-intensity aerobic interval training on post-infarction left ventricular remodelling. *BMJ case reports.* doi:10.1136/bcr-2012-007668
47. Waring C, Vicinanza C, Papalamprou A, Smith AJ, Purushothaman S, Goldspink DF, Nadal-Ginard B, Torella D and **Ellison GM**. (2014) The Adult Heart Responds to Increased Workload with Physiologic Hypertrophy, Cardiac Stem Cell Activation and New Myocyte Formation. *European Heart Journal, Online advance publication* doi:10.1093/eurheartj/ehs338. In Print 2014, 35:2722-2731. *Corresponding author.*
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49. **Ellison GM**, Waring CD, Vicinanza C, Torella D. (2012) Physiological cardiac remodelling in response to endurance exercise training: cellular and molecular mechanisms. *Heart.* 98(1):5-10.
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51. Torella D, Iaconetti C, Catalucci D, **Ellison GM**, Leone A, Waring CD, Bochicchio A, Vicinanza C, Aquila I, Curcio A, Condorelli G, Indolfi C. (2011) MicroRNA-133 controls vascular smooth muscle cell phenotypic switch



in vitro and vascular remodeling in vivo. *Circ Res.* **30**;109(8):880-93.

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60. Torella D, Indolfi C, Goldspink DF, **Ellison GM**. (2008) Cardiac stem cell-based myocardial regeneration: towards a translational approach. *Cardiovasc Hematol Agents Med Chem*; **6**:53-59.
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cardiotonic agents: some induce more cardiac and skeletal myocyte apoptosis and necrosis in vivo than others. *Cardiovascular Toxicology*, **5**, 355-364.

71. Torella, D., **Ellison, G. M.**, Nadal-Ginard, B. and Indolfi, C. (2005) Cardiac stem and progenitor cell biology for regenerative medicine. *Trends in Cardiovascular Medicine*, **15**, 229-236.
72. Sasso, F.C., Torella, D., Carbonara, O., **Ellison, G. M.**, Nasti, R., Marfella, R., Cozzolino, D., Scardone, M., Torella, M., Marra, C., Cotrufo, M., Torella, R. and Salvatore, T. (2005) Increased VEGF Expression But Impaired VEGF Receptor Signaling In The Myocardium of Diabetic Type 2 Patients with Chronic Coronary Heart Disease. *Journal of American College of Cardiology*, **46**, 827-834.
73. Goldspink, D. F., Burniston, J. G., **Ellison, G. M.**, Clark, W. A. and Tan, L-B. (2004). Catecholamine-induced apoptosis and necrosis in cardiac and skeletal myocytes of the rat *in vivo*: the same or separate death pathways. *Experimental Physiology*, **89**, 407-416.
74. Torella, D., Leosco, D., Curcio, A., **Ellison, G. M.**, LiVolti, G., Torella, M., Russo, V. G., Rengo, F., Indolfi, C. and Chiariello, M. (2004) Aging exacerbates negative remodeling and impairs endothelial regeneration after balloon injury. *American Journal of Physiology*, **287**, H2850-H2860.

#### Manuscripts submitted and in preparation

1. Cottle BJ, Vrehan A, Colley L, Morgan JE & **Ellison-Hughes GM**. Skeletal muscle-derived interstitial progenitor cells (PICs) engraft and differentiate into new muscle fibres restoring dystrophin expression following injection into the mdx muscular dystrophy mouse model. In preparation, 2023.
2. Grimsdell B, **Ellison-Hughes GM**, Fruhwirth G. In vivo tracking of Cardiac Progenitor Cells following myocardial infarction. In preparation, 2023.

## BOOK CHAPTERS

1. Torella D, Galuppo V, Indolfi C, **Ellison GM**. Endogenous Cardiac Stem Cells: Prospects for Clinically Relevant Myocardial Regeneration. Chapter 11 in "Future Aspects of Medical Sciences and Education. Challenge of Integrated Medical Sciences", edited by B. Nadal-Ginard and K. Takakura. page n 42. Tokyo Women's Medical University, 2008.
2. **Ellison GM**, Smith AJ, Waring CD, Henning BJ, Burdina AO, Polydorou J, Vicinanza C, Lewis FC, Nadal-Ginard B, Torella D. Chapter "Adult Cardiac Stem Cells: Identity, Location and Potential" in *Adult Stem Cells* (2<sup>nd</sup> Ed), pp 47-90, edited by K. Turksen. Springer, New York, USA. 2014.
3. **Ellison-Hughes GM** & Lewis FC. Chapter "Progenitor Cells from the Adult Heart" in *Cardiac Regeneration*, pp, edited by Wolfram-Hubertus Zimmermann and Masaki Ieda. Springer, New York, USA. 2017.

## PAST LAB MEMBERS AND STUDENTS SUPERVISED

Grad students	Completed	Whereabouts
Dr. Saranya Wyles (also completed 6 month intern in my lab)	January 2009	MD PhD programme Mayo Clinic, USA; Consultant in Dermatology, Assistant Prof. Mayo Clinic, USA.
MSc & MPhil students	Completed	
Dr. Angela Papalambrou	August 2008	PhD programme at UC Davis, then post-doc in USA, now scientist in start-up.
Dr. Sam Impey	August 2011	PhD programme at LJMU, now post-doc.
Dr. Thomas Theologou (MPhil)	July 2015	Senior registrar, Cardiothoracic surgery, Liverpool Heart & Chest Hospital.
Tze Shin Teoh	August 2015	Industry
Eva Domenjo Vila	August 2016	PhD Programme, Austria
Sachin Amin	August 2016	NHS, Clinical Physiologist
Samuel Barton	August 2017	Unknown
Nitiphat Sornkarn	August 2017	PhD programme, University of Oxford
Liam Colley	Sept 2018	PhD programme, University of Milan
Aliya Basak	July 2018	PhD programme, University of Manchester
Lulu Alshammari	August 2019	PhD student in my lab

Roli Adollo	August 2020	Medical degree
Emily Ambrose	August 2021	Pharmacist
<b>PhD students (1<sup>st</sup>/2<sup>nd</sup> sup)</b>	<b>Completed</b>	
Dr. Beverley Cottle (1)	July 2015	Post-doc in my lab, King's College London and then Australia (see below).
Sajiram Sarvananthan (1) – BHF Clinical Research Training Fellowship	2020	Registrar, Cardiothoracic surgery, Southampton General Hospital.
Shinka Miyamoto (2)	2008	Consultant Cardiologist, Tokyo Women's Hospital, Japan
Carla Vicinanza (2)	2011	Post-doc researcher, UMG Catanzaro, Italy.
Giulia Gritti (2)	2015	Post-doc researcher, University of Naples, Italy.
Thomas Francis (2)	2020	Post-doc researcher, King's College London
Ben Grimsdell (1)	March 2022	Consultancy in Biomedicine
Sarah Kendall (2)	2020	Pharmaceutical regulatory affairs consulting
Yu Han (1)	Current 4 <sup>th</sup> year	
Punkita Lohiya (2)	Current 4 <sup>th</sup> year	
Lulu Alshammari (1)	Current 4 <sup>th</sup> year	
Ahmed Altuwajiri (1)	Current 4 <sup>th</sup> year	
Regina Punzalan (1)	Current 3 <sup>rd</sup> year	
Alix Hughes (co-supervisor)	Current 2 <sup>nd</sup> year	
<b>Post-doc researchers</b>	<b>Date, started – finished</b>	
Dr. Cheryl Waring – Young Investigator ECSS 2009	April 2008 – 2013	Was research faculty support officer at LJMU until May 2014, now lives in USA with husband and works as a writing consultant for LIFE*MOD private medical practice.
Dr. Lisa Sharp	August 2007 – July 2009	Unknown
Dr. Anna Burdina	January 2011 – 2013	Embryologist at Liverpool Women's Hospital.
Dr. Stuart Meiklejohn	November 2013 – 2015	Science Teacher
Dr. Andrew Smith	July 2009 – 2015	Lecturer in Cardiovascular and Exercise Physiology, University of Leeds.
Dr. Fiona Lewis-McDougall – Young Investigator, ESSR 2015	November 2011- 2017	Lecturer in Myocardial Regeneration, William Harvey Research Institute, Queen Mary's University London.
Dr. Victoria Daws (nee Shone)	January 2014 – 2017	Senior Scientist, Francis Crick Institute, London.
Dr. Prashant Ruchaya	December 2015 – October 2018	Lecturer in Cardiovascular Physiology, University of East London.
Dr. Sorousheh Samizadeh	July 2017 – Dec 2017	Unknown
Dr. Beverley Cottle	August 2017 – Dec 2017	Emigrated to Australia; Senior Research Project Co-ordinator, University of QLD, Australia.
Dr. Mihai Podaru	Oct 2019 – Oct 2020	Went onto another post-doc position
Dr. Abeer Shalaan	Nov 2020 – Dec 2021	Went onto another post-doc position
Dr. Yotam Levy	Sept 2020 – Sept 2021	King's Enterprise and Teaching fellow
Dr. Piotr Sunderland	Sept 2020 – Nov 2022	Scientist at Abcam

## EDITORIAL BOARD

Scientific Reports, Nature Publishing Group (NPG)

BMC Cell and Molecular Biology

PharmAdvances

Frontiers in Pharmacology - Cardiovascular and Smooth Muscle Pharmacology

Frontiers in Cardiovascular Medicine - Cardiovascular Biologics and Regenerative Medicine

Journal of Cardiovascular Aging

## SOCIETY MEMBERSHIP

European Society of Cardiology, Basic Science, Cell Biology Working group

American Heart Association

International Society for Stem Cell Research

## AWARDS & PRIZES

British Federation of Women Graduates, Scholarship (£2,500) for academic excellence.	2003
British Federation of Women Graduates, Travel Bursary (£250).	2003
Young Investigator of the Year, 1st place (£4000), European College of Sports Sciences, Belgrade.	2005
International Society for Stem Cell Research, Travel fellowship (\$1000).	2007
Best of British Early Career Researchers, House of Commons, UK.	2007

## RESEARCH GRANTS & FUNDING

Project Title	Funding source	Amount	Period	Role
Myocyte death and regeneration in cardiac and skeletal muscle	BHF PhD Studentship	£67,000	2001-2004	PhD Student Supervisor – Prof. D.F. Goldspink
Self-renewal and regenerative potential of cardiac stem cells both in vivo and in vitro.	AHA Post-Doctoral Fellowship	\$72,000	2005-2007	Post-doc Supervisor – Dr. B. Nadal-Ginard
An integrative study of the effects of controlled exercise intensity on overall cardiac function and adaptations at the level of the cardiomyocyte	BHF Project Grant	£205,000	2006-2009	Principal Investigator
Cardiac stem cells in the adaptive response to physiological stress.	Marie Curie International Reintegration Grant	€100,000	2008-2012	Principal Investigator
Bidirectional interactions between myocytes and resident stem cells in the heart's adaptive response to exercise stress.	BHF Project Grant	£101,427	2009-2011	Principal Investigator
Unraveling the role of Bmi-1 and Wnt signaling pathways in determining human cardiac stem cell fate.	Institute of Health Research, LJMU	£6,200	2009-2010	Principal Investigator
CARE-MI: Activation of endogenous cells as an approach to regenerative medicine.	FP7 Collaborative Project - Large Scale. HEALTH-2009-1.4-3: FP7-HEALTH-2009.	€1.1 million (€11.8m total budget)	2010-2015	Principal Investigator
Endostem: Activation of vasculature associated stem cells and muscle stem cells for the repair and maintenance of muscle tissue	FP7 Collaborative Project - Large Scale. HEALTH-2009-1.4-3: FP7-HEALTH-2009.	€560,000 (€11.9m total budget)	2010-2015	Principal Investigator
The biology of resident stem-progenitor cells in cardiac and skeletal muscle	Faculty of Science PhD studentship (LJMU)	£41,850	2012-2015	Principal Investigator. Supervisor (DoS) to Beverley Cottle.
Characterisation of Endogenous Cardiac Stem Cells (eCSCs) from	Institute of Cardiovascular	£18,775	2012-2013	Principal Investigator. Supervisor (DoS) to



the Adult Human Heart	Medicine & Science (ICMS), Liverpool Heart & Chest Hospital, NHS Foundation trust			Thomas Theologou (MPhil).
Identifying mechanisms inducing endogenous cardiac stem cell quiescence in the adult heart.	Guy's and St. Thomas' Charity, King's Health Partners	£54,517	2014-2016	Principal Investigator
Effects of tyrosine kinase inhibitors on the characteristics of endogenous cardiac stem cells from the adult human heart in vitro	Heart Research UK	£113,260	2014-2016	Principal Investigator
Ageing and senescence of endogenous cardiac stem cells (eCSCs) determines myocardial regenerative potential.	BHF Project Grant	£192,298	2014-2017	Principal Investigator
Mechanisms underlying the transdifferentiation of human muscle fibroblasts into adipocytes.	BBSRC	£387,446	2014-2017	Co-Investigator
The Distribution and Characteristics of Endogenous Cardiac Stem Cells in the Adult Human Heart	BHF – Clinical Research Training Fellowship	£203,465	2014-2017	Sponsor/PhD supervisor
Addressing the heterogeneity inherent in cardiac-derived c-kit+ cells	BHF Regenerative Medicine Centre	£107,100	2016-2017	Principal Investigator
Defining the biology of human cardiac stem/progenitor cells for their use as an allogeneic cell therapeutic agent for myocardial repair and regeneration	MRC	£242,592	2017-2019	Principal Investigator
Elucidating the therapeutic potential of PW1-positive interstitial cells in treating muscular dystrophy	Guy's and St. Thomas' Charity, King's Health Partners	£7,755	2017	Principal Investigator
Cellular and sub-cellular sampling using laser capture microdissection to understand disease mechanisms	Wellcome Trust Multi-User Equipment Grant	£272,298	2018-2023	Co-Investigator (PI, Mathias Gautel)
Mesenchymal stromal cell apoptosis is required to resolve inflammation and promote tissue repair after myocardial infarction	BHF Project Grant	£256,461	2019-2023	Co-PI (other Co-PI, Francesco Dazzi)
Elucidating the therapeutic potential of PW1/Peg3pos/Pax7neg skeletal muscle-derived interstitial progenitor cells (PICs)	Confidence in Collaboration in Advanced Therapies Award, King's Health Partners	£100,068	2019-2022	Principal Investigator

RENOIR: REcreating the ideal Niche: environmental control Of cell Identity in Regenerating and diseased muscles.	H2020-MSCA-ITN-2019 Marie Skłodowska-Curie Innovative Training Networks	£254,664	2020-2025	Principal Investigator
Targeting cellular senescence as a therapy to rejuvenate the reparative activity of human cardiomyocytes and endothelial cells	Heart Research UK	£126,440	2020-2023	Principal Investigator
Targeting senescence to prevent, alleviate or delay multiple chronic age-related diseases	King's Together Fund Strategic Award	£100,976	2020-2023	Principal Investigator

## INVITED SPEAKER AND CHAIR

**Session CHAIR.** “Improving yield, viability and engraftment of stem cells in the heart”. European Society of Cardiology Annual Congress. Barcelona, Spain. Sept 3<sup>rd</sup> 2006.

**INVITED SYMPOSIA speaker.** “Molecular basis governing cardiac stem cell fate”. 1<sup>st</sup> International Symposium on Regenerative Medicine in Cardiology. Inbiomed, San Sebastian, Spain. October 23, 2007.

**INVITED SYMPOSIA speaker.** “Growth factor stimulated cardiac repair and regeneration in a pre-clinical animal model”. 1<sup>st</sup> Symposium on Innovative Approaches for Cardiac Repair and Renewal. Wythenshawe Hospital, Manchester, UK. July 10<sup>th</sup> 2008.

**INVITED SYMPOSIA speaker.** “Cardiomyogenesis from adult cardiac stem cells in response to myocyte-secreted growth factors after myocardial injury”. UK National Stem Cell Network (UKNSCN) Cardiac Repair Collaborative Research Group. University College London (UCL), Sept 15<sup>th</sup> 2008.

**INVITED seminar speaker.** “Molecular and Cellular Basis of Cardiac Stem Cell Activation and Myogenic Differentiation *in vivo* and *in vitro*” Harefield Heart Centre, January 26<sup>th</sup> 2009.

**INVITED PLENARY speaker.** “A Lesson from the Heart: Cardiac Stem Cells in Adult Myocardial Homeostasis and Regeneration” Adult Stem Cells session. Annual meeting of UK National Stem Cell Network (UKNSCN), Oxford University, 6<sup>th</sup> April 2009.

**INVITED SYMPOSIA speaker.** “Pre-Clinical Approaches to Myocardial Regeneration with Adult Cardiac Stem Cells” Cardiac Repair and Regeneration Workshop Session. Annual meeting of UK National Stem Cell Network (UKNSCN), University of Oxford, 8<sup>th</sup> April 2009.

**INVITED seminar speaker.** “Adult Resident Cardiac Stem Cells for Myocardial Regeneration”. Birmingham University Stem Cell Centre Seminars, Birmingham University, 24<sup>th</sup> Sept 2009.

**INVITED SYMPOSIA speaker.** “Adult Cardiac Stem Cells”. 4<sup>th</sup> International EuroEpiStem-2009: Epigenomic Programming & Stem Cells for Drug Discovery. University of Cambridge, Cambridge, 4<sup>th</sup> – 5<sup>th</sup> Nov 2009.

**INVITED seminar speaker.** “Repairing the Broken Heart using Resident Cardiac Stem Cells”. School of Biomedical and Health Sciences Seminar Series, King’s College London, 20<sup>th</sup> Jan 2010.

**INVITED SYMPOSIA speaker.** “Resident Adult Rat Cardiac Stem Cells Have Robust In Situ Myocardial Regenerative Capacity and Are Indispensable for Cardiac Repair and Functional Recovery”. British Heart Foundation Cardiovascular Research Principal Investigators Meeting, University of Oxford, 25<sup>th</sup> Feb 2010.

**INVITED SYMPOSIA speaker.** “Rebuilding the Broken Heart: Cardiac Stem Cells for Myocardial Regeneration”. Birmingham Congenital Cardiac Workshop, Birmingham Children’s Hospital, 26<sup>th</sup> Feb 2010.

**INVITED OUTREACH speaker** “Rebuilding the Broken Heart using Cardiac Stem Cells”. 6<sup>th</sup> form Science club seminar, Henrietta Barnett all Girls Grammar School, Hampstead, London. 19<sup>th</sup> March 2010. Public Engagement.

**INVITED SYMPOSIA speaker.** ‘Understanding the Biology of Cardiac Stem Cells for Myocardial Regeneration Therapies’ LJMU, Institute for Health Research Annual Conference 2010. Tate Liverpool, Albert Dock, Liverpool. 21<sup>st</sup> May 2010.

**INVITED OUTREACH speaker** . ‘Are stem cells the miracle cure for disease?’ The Samson Centre, Guildford, Surrey. *Public engagement in Science*. 4<sup>th</sup> June 2010. Public Engagement.

**INVITED SYMPOSIA speaker.** “Rebuilding the broken heart: cardiac stem cells for myocardial regeneration” Mercia Stem Cell Alliance Inaugural Scientific Meeting, Birmingham University, Medical School, UK. 13<sup>th</sup> September, 2010.

**INVITED SYMPOSIA speaker.** American Heart Association Scientific Sessions. ‘Role of GPCRs in Myocyte Death and Renewal’. Session title: CVS.507. New Frontiers in Heart Failure: A Focus on G Protein--Coupled Receptors. Chicago, USA. Nov 13<sup>th</sup> – 17<sup>th</sup> 2010.

**INVITED seminar speaker.** 'How to Repair a Broken Heart: Resident Adult Cardiac Stem Cells for Myocardial Regeneration'. Wolfson Centre for Stem Cells, Tissue Engineering & Modelling (STEM), Centre for Biomolecular Sciences, University of Nottingham, UK. Dec 15<sup>th</sup> 2010.

**INVITED seminar speaker.** 'Repair From Within: Endogenous Cardiac Stem Cells for Myocardial Regeneration'. Institute for Biomedical Research into Human Movement and Health, Manchester Metropolitan University, UK. Jan 19<sup>th</sup> 2011.

**CHAIR** of Parallel Workshop entitled 'Bench to Bedside: The Heart and Vasculature'. Sponsored by the BHF. UKNSCN annual conference, York, UK. 30 March - 1 April 2011.

**INVITED PLENARY speaker.** "The role of cardiac stem cells in cardiac adaptations to physiological and pathological stress" - NEW HORIZONS: In the Role of Exercise in the Treatment of Cardiovascular Disease. European College of Sports Science (ECSS) Annual Congress, Echo Arena/Convention centre, Liverpool, UK. July 7<sup>th</sup> 2011.

**INVITED seminar speaker.** 'The role of cardiac stem cells in cardiac adaptations to physiological and pathological stress' Seminar series, MRC Clinical Sciences Centre, Hammersmith Hospital, Imperial College London. 21<sup>st</sup> September 2011.

**INVITED seminar speaker.** 'Optimising Cardiac Repair and Regeneration through Activation of the Endogenous Cardiac Stem Cell Compartment'. Harefield Heart Science Centre, Imperial College London. 23<sup>rd</sup> Jan 2012.

**INVITED SYMPOSIA speaker.** 'Mending the Broken Heart: Resident Adult Cardiac Stem Cells for Myocardial Regeneration'. *BHF Scientist representative for their Mending broken hearts appeal*. North West Ambulance Service, Community First Responders Conference, Lancaster University. 24<sup>th</sup> March 2012.

**INVITED seminar speaker.** 'How to Repair a Broken Heart: Resident Adult Cardiac Stem Cells for Myocardial Regeneration' Institute of Cardiovascular Medicine and Science, Liverpool Heart & Chest Hospital. Liverpool. Dame Prof Carol Black lecture. 27<sup>th</sup> April 2012.

**INVITED SYMPOSIA speaker.** "LOSS OF SKELETAL AND CARDIAC MUSCLE REGENERATIVE CAPACITY WITH OLD AGE" – Mechanism in Sarcopenia. European College of Sports Science (ECSS) Annual Congress, Bruges, Belgium. July 6<sup>th</sup> 2012.

**INVITED seminar speaker.** 'Optimising Cardiac Repair and Regeneration through Activation of the Endogenous Cardiac Stem Cell Compartment'. PhySoc seminar, University of Liverpool. 23<sup>rd</sup> Oct 2012.

**INVITED SYMPOSIA speaker.** "Ageing and senescence of endogenous cardiac stem cells determines their growth and differentiation potential". Mercia Stem Cell Alliance annual scientific conference. University of Nottingham. 3<sup>rd</sup> December 2012.

**INVITED seminar speaker.** "Biology & regenerative potential of stem cells derived from adult skeletal and cardiac muscle". McMaster University, Canada. 19<sup>th</sup> December 2012.

**INVITED seminar speaker.** "Activation of endogenous stem cells as an approach to regenerative medicine". The Oxford Stem Cell Institute, University of Oxford. 11<sup>th</sup> January 2013.

**INVITED SYMPOSIA speaker.** "Using the endogenous, resident cardiac stem-progenitor cells to repair and regenerate a broken heart". Society of Cardiothoracic surgeons of Great Britain and Ireland annual conference. Brighton conference centre. 17<sup>th</sup> – 19<sup>th</sup> March 2013.

**INVITED SYMPOSIA speaker.** "Tissue-specific stem-progenitor cells from the adult mammalian heart and skeletal muscle". British Society of Gene and Cell Therapy annual conference. Royal Holloway, University of London. 17<sup>th</sup> – 19<sup>th</sup> April 2013.

**INVITED SYMPOSIA speaker.** "Stem Cell Therapies - Heart". British Society of Gene and Cell Therapy annual conference. Royal Holloway, University of London. 17<sup>th</sup> – 19<sup>th</sup> April 2013.

**INVITED seminar speaker.** "Activation of endogenous stem cells as an approach to regenerative medicine". University Medical Centre Utrecht. 25<sup>th</sup> April 2013.

**INVITED seminar speaker.** "Activation of endogenous stem cells as an approach to regenerative medicine". University of Leuven, Belgium. 13<sup>th</sup> May 2013.

**INVITED SYMPOSIA speaker.** "Repairing and regenerating the damaged heart". Barts Health Heart Failure Symposium. St. Bart's Hospital, London. 4<sup>th</sup> July 2013.

**INVITED seminar speaker.** "Mending broken hearts using cardiac stem cells". The Rayne Institute, King's College, London. 6<sup>th</sup> September 2013.

**INVITED seminar speaker.** "Harnessing the potential of adult-derived cardiac stem cells for myocardial regeneration". The Wolfson CARD, King's College, London. 19<sup>th</sup> September 2013

**INVITED SYMPOSIA speaker.** "Manipulating the endogenous cardiac stem cells in the adult heart for repair and regeneration". H3 Symposium, The Physiological Society. Hodgkin Huxley House, London. 4<sup>th</sup> April 2014.

**INVITED SYMPOSIA speaker.** "Manipulating the endogenous cardiac stem cells in the adult heart for repair and regeneration". European Society of Clinical Investigation Annual Conference, Utrecht, The Netherlands. 1<sup>st</sup> May 2014.

**INVITED SYMPOSIA speaker** "Harnessing the potential of adult-derived cardiac stem cells for myocardial regeneration" European Society for Surgical Research annual congress. Liverpool, UK. 11<sup>th</sup> June 2015.

**INVITED SYMPOSIA speaker.** "Harnessing the potential of adult-derived cardiac stem cells for myocardial regeneration". Barts Health Heart Failure Symposium. St. Bart's Hospital, London. 22<sup>nd</sup> July 2015.

**INVITED SYMPOSIA speaker.** "Harnessing the potential of cardiac stem cells for myocardial regeneration" BIRAX (the Britain Israel Research and Academic Exchange Partnership) Conference, University of Oxford, UK. April 11<sup>th</sup> 2016.

**INVITED SYMPOSIA speaker.** “The heart, it’s stem cells and the impact of space”. Space UP:UK conference, Kings College London. 3<sup>rd</sup> June 2016.

**INVITED SYMPOSIA speaker.** ‘Cardiac Stem Cells to regenerate the injured heart’ 5<sup>th</sup> International Utrecht Stem Cell Conference, University Medical Centre Utrecht, The Netherlands. 23<sup>rd</sup> September 2016.

**INVITED seminar speaker** ‘Exercise training and Cardiac Stem Cells: Exciting Times for Cardiovascular Health’ Aspartar, Qatar. 13<sup>th</sup> December 2016.

**INVITED SYMPOSIA speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’ Biology of Aging Symposium: Advances in therapeutic approaches to extend healthspan. The Scripps Research Institute, Jupiter, Florida, USA. January 22-25<sup>th</sup> 2017.

**INVITED speaker** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’ Robert & Arlene Kogod Center on Aging, Mayo Clinic, Rochester, USA. March 13<sup>th</sup> 2017.

**INVITED seminar speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’. Greater London Association of Women Graduates, British Federation of Women Graduates. University College London, UK. May 24<sup>th</sup> 2017.

**INVITED seminar speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’. University of Liverpool, UK. August 18<sup>th</sup> 2017.

**INVITED seminar speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’. University of Manchester, UK. December 15<sup>th</sup> 2017.

**INVITED seminar speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’. University of Newcastle, UK. January 17<sup>th</sup> 2018.

**INVITED seminar speaker.** ‘Impact of ageing and senescence on endogenous cardiac stem/progenitor cells in the human heart’. PhD retreat, University of Basel, Switzerland. June 7<sup>th</sup> 2018.

**INVITED participant.** ‘Resident cardiac progenitor cells’. CARDIAC REGENERATION MEETS TOGETHER, Fondation Leducq Inspired Networking, Hotel Victor, Cabriès, Provence, France. October 5<sup>th</sup>-6<sup>th</sup> 2018.

**INVITED seminar speaker.** ‘How can we rejuvenate the regenerative capacity of the heart’. University of Leeds, UK. November 1<sup>st</sup> 2018.

**INVITED speaker** “Muscle-derived interstitial progenitor cells for skeletal muscle regeneration” 1<sup>st</sup> London Advanced therapies symposium. King’s College London, Guy’s campus. 2<sup>nd</sup> April 2019.

**INVITED panel discussant** ‘Stem Cells in the adult heart. Myth or reality?’ 16<sup>th</sup> International Symposium on Cardiovascular Regeneration and Repair. Madrid, Spain, May 9<sup>th</sup>-10<sup>th</sup> 2019.

**INVITED Session CHAIR.** 10<sup>th</sup> Annual Alliance for Healthy Aging Conference. A Partnership of Mayo Clinic Kogod Center on Aging, The University Medical Center Groningen, and Newcastle University Institute for Ageing. “Intervention from Mice to Humans” 24-26<sup>th</sup> October 2019, Slaley Hall Hotel, Hexham, UK.

**INVITED SYMPOSIA speaker.** “Rejuvenating the ageing heart”. 22<sup>nd</sup> National Congress of the Societa’ Italiana Di Ricerche Cardiovascolari. Imola. Italy. 6-8<sup>th</sup> November, 2019.

**INVITED SYMPOSIA speaker.** “Rejuvenating the regenerative capacity of the aged heart”. 2019 UNESCO Anti-ageing Executive Committee Beijing Launch Conference and Second International Biomedical Health Annual Conference, Beijing, China. Diaoyutai State Guesthouse (Fishing Pavilion, www.chinadyt.com), China, December 16<sup>th</sup> 2019.

**INVITED WEBINAR speaker.** “Rejuvenating the regenerative capacity of the aged heart”. CVRC Webinar Series, Cardiovascular Research Center at Mount Sinai School of Medicine, NYC, USA. 10<sup>th</sup> September 2020.

**INVITED WEBINAR speaker.** “Transplanting mesenchymal stem cells to improve the outcome of patients with COVID 19.” First Virtual Alliance 2 hour Mini-Symposium on COVID-19 and Aging mini-symposium, Alliance for Healthy Aging. Tuesday, February 9, 2021.

**INVITED SYMPOSIA speaker.** ‘Aged-senescent cells contribute to impaired heart regeneration’. 10<sup>th</sup> International Symposium on Cardiovascular Ageing: From Basic Science to Translation. Halle, Germany. 3<sup>rd</sup> – 5<sup>th</sup> September 2021.

**INVITED WEBINAR speaker.** “Rejuvenating the regenerative capacity of the aged heart”. PROMMAGE PhD student seminar series, Halle, Germany. 15<sup>th</sup> October 2021.

**INVITED WEBINAR speaker.** “Rejuvenating the regenerative capacity of the aged heart”. University of Surrey research seminar series, UK. 20<sup>th</sup> October 2021.

**INVITED SEMINAR speaker.** “Aged-senescent cells contribute to impaired heart regeneration”. University of Bristol, The School of Cellular and Molecular Medicine seminar series. March 22<sup>nd</sup> 2022.

**INVITED PLENARY speaker.** “Understanding the role of cell senescence and homeostasis in targeting cardiac regeneration” Longevity Leaders World Congress, London, UK. 26-27<sup>th</sup> April 2022.

**INVITED SYMPOSIA speaker.** “Targeting cell senescence to improve cardiac regeneration” JAIN China & ISOAD Summit 2022: AI & Cognitive Science – Aging and Disease. A hybrid conference, Shanghai and online – October 27-30, 2022.

**INVITED SYMPOSIA speaker** “Targeting cell senescence to improve cardiac regeneration” 3<sup>rd</sup> Texas Heart Institute (THI) Symposium on Cardiovascular Regenerative Medicine. A Joint Event with the European Society of Cardiology Working Group on Cardiovascular Regenerative and Reparative Medicine. Texas Heart Institute, Houston, Texas, USA. May 12-13<sup>th</sup>, 2023.

## PUBLISHED ABSTRACTS AND PRESENTATIONS AT CONFERENCES

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>80 Published abstracts and conference proceedings in Circulation (Scientific sessions, American Heart Association), European Heart Journal (European Society of Cardiology), Cardiovascular Research (European Society of Cardiology Council on Basic Cardiovascular Science), The Journal of Physiology (The Physiological Society) and Human Gene Therapy (British Society of Gene and Cell Therapy).

## CONTRIBUTING REVIEWER

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Reviewing activity recorded and profile on [www.publons.com](http://www.publons.com)

**Journals:** Science, JCI Insights, Nature Aging, Aging, PLoS Biology; Stem Cell Reports, Journal of Molecular & Cellular Cardiology; European Heart Journal; Cardiovascular Research; Aging Cell, Journal of American Heart Association; Stem Cell Research & Therapy; Stem Cells & Development; Stem Cells Translational Medicine; Stem Cells; American Journal of Physiology; Stem Cell Research; Heart; Journal of Cardiovascular Translational Research; Human Molecular Genetics; JoVE.

**Grants:** MRC, BBSRC, BHF, HRUK, Netherlands Organisation for Scientific Research (NWO), National Science Centre Poland, Swiss National Science Foundation, Academy of Medical Sciences, Mayo Clinic (NIH).

## TEACHING & EDUCATION

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- PG co-ordinator (2014-2021), Centre for Human & Applied Physiological Sciences, King's College, London.
- Module Leader, Cardiovascular and Respiratory Control. Level 6, Undergraduate (~55 students).
- Lectures on Topics in Regenerative Medicine; Stem Cells and Cell Therapy (Level 6); Cell Biology (Level 5).
- MSc/MRes research project supervision (MSc/MRes Biomedical & Molecular Sciences Research; MSci Biochemistry and MSci Molecular Genetics; MSc Human Applied Physiology; MSc Pharmacology)
- Undergrad research project supervision in my lab (1-2 students/year; Level 6).
- Library project student supervision (Levels 5, 6 & 7).
- Project design supervision (Level 6)
- External examiner of the MRes Biomedical Sciences & Translational Medicine (3) - Stem Cells, Tissues and Disease at the University of Liverpool, UK. 2013-2016; MRes student at University of Bristol, 2018.
- External PhD examiner for University College London (UCL), Imperial College London, University of Edinburgh, Newcastle University, University Medical Center, Utrecht, The Netherlands. Internal PhD examiner at KCL
- Extern Examiner, National University of Ireland, Dr H H Stewart Medical Scholarship and Prizes, Physiology. 2020-present.
- MRC Doctoral Training Programme (DTP) in Biomedical Sciences organizing and scientific committee, Theme 1 - Cells, Molecules and the Basis of Health and Disease. Role includes shortlisting PhD applications, interviews, hosting rotation projects and assessment of projects and presentations. 2017–present.
- MRC Doctoral Training Programme (DTP) Flexible Supplement Fund panel member. 2017–present.

## OTHER INFORMATION

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- **Academic lead for Development, Diversity & Inclusion (includes Athena SWAN, Stonewall and Race Equality Charter), School of Basic & Medical Biosciences, King's College, London.** 2018 - present
- Member of UNESCO Executive committee 'Anti-Aging and Disease Prevention'. Launched in Beijing, China, Dec 16<sup>th</sup> 2019.
- Scientific advisory board member to project REMAIN, Investigators: Profs. Eva Van Rooj, Steven Chamuleau, Patricia Dankers. The Netherlands Heart Foundation, 2016-2020.
- Executive Board member of CARE-MI consortium, Collaborative Project - Large Scale Integrating Project. HEALTH-2009-1.4-3: FP7-HEALTH-2009-single-stage. 2010-2015.
- Member of Scientific and Organizing committee for European College of Sports Science (ECSS) Annual Congress, Echo Arena/Convention centre, Liverpool, UK. July 6<sup>th</sup> – 9<sup>th</sup> 2011. 2500 delegates.
- Organiser of CARE-MI consortium Scientific Progress Annual conference, Hilton Hotel, Albert Dock, Liverpool, UK. July 10<sup>th</sup> – 11<sup>th</sup> 2011. Chair of organising committee. 60 delegates from 14 EU countries.



- Member of the Cardiovascular Ageing Classification Working Group, WHO International Classification of Diseases (ICD), to develop robust international consensus for a comprehensive, rationalised and harmonised set of ageing-related and metabolic cardiovascular syndromes and diseases. 2020-present.
- Trial Steering Committee (TSC) Chair, Phase I/II MONACO Cell Therapy Study: Monocytes as an Anti-fibrotic treatment after Covid-19. 2020-present

#### Public engagement and Outreach activities

- **STEM Ambassador.** Dissemination of the Stem Cell floor game, in collaboration with Dr. Cathy Southworth, University of Edinburgh.
- Talks delivered to Schools, NHS patients and support groups, Scientists in Sport/Face to Face with Sports Science, deliver cardiovascular activities (i.e. measurement of blood pressure, cardiac structure and function by echocardiography, lung function) to school children as part of British Cardiovascular Society annual conference. Feedback received: 'Truly exceptional and a leader in the UK'.
- **Pint of Science,** The 6 million dollar heart, can we rebuild it, do we have the technology? Princess Victoria pub, Uxbridge Rd, London. May 22<sup>nd</sup> 2019.
- **TEDx Speaker.** What becomes of the broken heartened: Rejuvenating hearts. <https://youtu.be/MFjkw13A0-4> TEDx Royal Tunbridge Wells, Feb 1<sup>st</sup> 2020.
- **Organiser and lead for School Holiday Activity camps, Guy's campus, launched August 2022.** Primary school age children participate in a range of hands-on and interactive biomedicine, medicine and aerospace physiology activity workshops.
- My work has been covered in the media, such as the ITV News (<http://www.itv.com/news/2013-08-16/behaviour-of-stem-cells-in-rats-could-help-to-treat-heart-failure/>), International and UK newspapers such as the Financial Times (<https://www.ft.com/content/6714f153-6dd5-4770-a066-a433eeec8baa>); the Telegraph (<http://www.telegraph.co.uk/health/healthnews/8611634/Scientists-mend-broken-hearts.html>; <http://www.telegraph.co.uk/science/science-news/9651682/Exercise-could-repair-heart-damage.html>) and Mail on Sunday (<http://www.mailonsunday.co.uk/health/article-2227211/Daily-exercise-help-repair-damage-heart-failure.html>); and online News portals, such as Science Newsline (<http://www.sciencenewsline.com/summary/2013081517500017.html>), and Huffington Post ([http://www.huffingtonpost.co.uk/2013/08/16/stem-cells-heart-disease-repair\\_n\\_3766167.html](http://www.huffingtonpost.co.uk/2013/08/16/stem-cells-heart-disease-repair_n_3766167.html)). Contributing expert and speaker to B-debate on 'Unsolved Problems in Heart Repair', Nov 2012. <http://www.bdebate.org/en/forum/unsolved-problems-heart-repair>; Contributing expert of Physiological Society on cytokine storm and MSC therapy for COVID-19 <https://www.physoc.org/blog/on-the-road-to-a-stem-cell-treatment-for-covid-19/>; <https://youtu.be/i7gwJszKHCI> and Immunity and antibody tests [https://www.physoc.org/news\\_article/expert-comment-on-antibody-tests-for-covid-19/?fbclid=IwAR3n12in2D1hpxogBfXzCqtZY5hCnVsD\\_90ruTnpg2v8WuTqiwCGanDsK5Y](https://www.physoc.org/news_article/expert-comment-on-antibody-tests-for-covid-19/?fbclid=IwAR3n12in2D1hpxogBfXzCqtZY5hCnVsD_90ruTnpg2v8WuTqiwCGanDsK5Y)