

## John F. O'Sullivan

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Australian Health Practitioner Regulation Agency (AHPRA), Specialist Registration: MED0002041720.

Provider numbers: 5739802J; 5739801Y.

### Narrative Overview

I am a Clinical-Academic Cardiologist at The University of Sydney – Royal Prince Alfred Hospital; Inaugural Professor of Cardiometabolic Medicine in the School of Medical Sciences, Faculty of Medicine and Health; Group Leader in Cardiometabolic Disease at the Charles Perkins Centre; and Level 2 National Heart Foundation Future Leader Fellow. I am also Adjunct Professor in the Faculty of Medicine at TU Dresden, a Top 10 Medical School in Germany.

I trained and received clinical accreditation in Europe, USA, and Australia. This includes Fellowships of the Royal College of Physicians of Ireland, the American Heart Association, and the Royal Australasian College of Physicians. I hold Level III SCMR Certification in Cardiac MRI. I am co-Founding Director of the first Heart Failure with Preserved Ejection Fraction (HFpEF) clinic in NSW, at RPAH, with A/Prof Sean Lal, and Founder and Chair of the *Stiff Heart Failure Alliance* across SLHD and WSLHD that leads implementation of standardized diagnostic criteria for HFpEF and provides governance for my clinical trials at RPAH, Westmead, Blacktown, and Concord Hospitals.

My PhD, supported by a Molecular Medicine Ireland Fellowship, led to highly impactful publications and outcomes awarded with 1<sup>st</sup> place competitive international investigator awards from the American College of Cardiology, American Heart Association, and Irish Cardiac Society (separate projects); a successful patent application; and spurred a clinical trial, RESUS-AMI.

I undertook postdoctoral fellowships in genomics and metabolomics at Harvard Medical School, Massachusetts General Hospital, and the Broad Institute of Harvard and MIT. Here, I received awards from Harvard Medical School, Massachusetts General Hospital, and funding from the NIH. I characterized a novel metabolite (added to the Human Metabolome Database in 2017) using metabolomics, genomics, mendelian randomization, and chemical elucidation in the Framingham Heart Study (O'Sullivan *et al.*, *J Clin Invest*, 2017). In Australia, I developed this biomarker into a novel clinical assay (incorporated into Medicare Item #66755) that is routinely measured through NSW Pathology. I have co-founded a spinout company, *HepatomX*, to translate new diagnostics and therapeutics in cardiometabolic disease.

I lead a comprehensive bench-to-bedside heart failure program at the University of Sydney, RPAH, and HRI, obtaining funding to support a large team including 3 postdocs and 2 RAs, in addition to PhD, Honours, and Extended MD students. I am Founder and Lead Principal Investigator of two Randomized Controlled Clinical Trials – that are clinical *translations of my discoveries in the lab*. I have established commercial partnerships with Astellas Pharma Inc., Chromadex, and CSL to test Lead Candidate Compounds in human heart tissue obtained from our cardiac biopsy program (in partnership with A/Prof Sean Lal and Prof Paul Bannon), which is then placed in custom biomimetic chambers that house *ex*

*vivo* beating human heart tissue slices that I have established. I have formed a strategic link with Prof David Kaye's HFpEF research program in Melbourne, with whom I have collaborated since 2020, generating novel data by applying our cardiac fuel substrate analytics to his transcatheter gradient fuel samples. I have subsequently obtained ethics approval to obtain transcatheter gradients at RPAH, Strathfield, and Mater Hospitals, elevating local capacity.

These clinical trials and commercial partnerships fall under the umbrella of a larger program that I have established. I founded a *Stiff Heart Failure Alliance* across SLHD and WSLHD, with nodes in hospitals where there is a high prevalence of HFpEF including Blacktown, Westmead, and Concord Hospitals. I have recruited leads in Clinical, Allied Health, and Health Economics. I have established links with consumer groups: Judy Ford, Heart Failure patient and CEO of Heart Support Australia, and Tanya Hall, CEO of patient advocacy group hearts4heart, have been recruited to lead a consumer and customer advisory group within the Alliance. I have also recruited expertise in Implementation Science and Policy Development, who will lead knowledge translation along with updating national and international policy and guidelines.

My international reputation as a leader in my field of cardiometabolic disease is evidenced by invitations as expert reviewer from national research councils: France (AAPG, 2025), European Research Council (ADG 2024), Israel Science Foundation (ID: 3897/24-113.0, 2024), Netherlands (ZonMW) (2023, 2024), UK (ID 2651863) (2022), Norway (2022), and New Zealand (2021, 2022); to speak at Australia's largest cardiology meeting CSANZ and the world's largest cardiology meeting European Society of Cardiology, and invited expert panel member at international cardiology meetings. I am Member of the Novel Cardiovascular Risk Assessment Expert Subgroup reporting to the Australian Department of Health. I have recently been invited to chair a new Australia-EU HFpEF consortium.

I have been a dedicated supervisor, mentor, and teacher for over 20 years. This includes teaching undergraduate medical students, postgraduate medical trainees, and basic science undergraduates and postgraduate fellows. I helped coordinate the RCPI clinical fellowship examinations for several years, and was a clinical proctor whilst at Trinity College, Dublin. I established and lead new syllabi and programs of learning, e.g. the new Cardiovascular Developmental Programming Node at the Charles Perkins Centre. This node was the most popular program amongst Dalrymple Science students for the last three years, and now highly popular amongst Extended MD students. I lead the Cardiac Developmental Programming arm of this node, and have established collaborations with BABY-1000 in Sydney, and Prof Fatima Crispi's group in Barcelona, in which we will interrogate the relationship between maternal diet and fetal cardiac development in these large human cohorts. This work is mirrored by fundamental discoveries we have made in murine fetal offspring hearts where we demonstrated a novel interaction of sucrose (table sugar) with 1-carbon metabolism using RNA\_seq in single fetal hearts, which we believe serves as a pro-hypertrophic stimulus that reframes our understanding of the provenance and development of hypertrophic cardiomyopathy.

I am a dedicated mentor, with demonstrable success in this regard. As a clinician-scientist in cardiology, I have mentored a range of students, trainees, and clinicians, both within and Honours student receiving the University Medal and a PhD student receiving the Peter Bancroft Prize (no thesis emendations). I provided mentorship of 8 postdoctoral research fellows (local, interstate, and international). I am member of the School of Medical Sciences Mentoring Program, and Charles Perkins Centre (CPC) Early/Mid-Career Researcher (EMCR) Committee. At University of Sydney, I established, and mentor ~20 students in the Developmental Programming and Precision Heart Failure nodes, including

ECR grant sessions. In 2017, I initiated a cross-campus precision cardiovascular program, hosting 5 workshops and mentoring 10 students leading to 2 student first-author high-impact publications (Li, Nat Comms, 2020; Kim, Nat Comms, 2021). I have presented invited talks on the key role of mentoring in research, including at Heart Research Institute (2019), Keynote Speaker at CPC EMCR career day (2021), and USYD on mentoring clinician-scientists (2023). Several mentees have gone on to achieve faculty appointments as junior group leaders including Dr Koay (senior lecturer, University of Sydney), Dr Wang (senior lecturer, University of Sydney), and fellowships e.g. Dr Koay (National Heart Foundation (NHF) Future Leader Fellow). As CIA of MRFF grant (2024161), I established a mentor-mentee program. I provide research mentorship to cardiologists, specialist nurses, and scientists. As lead of the Cardiometabolic Medicine group, I mentor 5 postdocs, 3 PhD students, 2 research assistants, 2 masters students, and 3 honours students. I mentor ECR development for conferences and publications (50% of my publications have students as co-authors) beyond my research program, and undertake leadership roles in mentorship. Since my PhD in 2012, I have been the primary mentor to over 15 undergraduate, postgraduate, and clinical trainees. I also mentor more senior colleagues, clinical and research, in Australia, USA, and Ireland at Level D and E with regard to specialist and broader clinical and academic issues.

#### QUALIFICATIONS

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2020	<b>Level III SCMR</b> Accreditation in Cardiac MRI
2019	<b>FRACP</b> , Fellow of the Royal Australasian College of Physicians.
2017	<b>CSCST Cardiology</b> , Royal College of Physicians of Ireland.
2015	<b>Cert. Biostatistics</b> , Harvard University.
2012	<b>PhD</b> , University College Cork, Cork, Ireland.
2011	<b>ECFMG Certification</b> , US Educational Commission for Foreign Medical Graduates, USA.
2006	<b>FRCPI</b> , Fellow of the Royal College of Physicians of Ireland.
2006	<b>MSc</b> , Master of Science (Genetics), National University of Ireland, Galway, Ireland.
2001	<b>MB BCh BAO</b> , Bachelor of Medicine, Bachelor of Surgery, Bachelor of Obstetrics and Gynaecology.

#### CLINICAL APPOINTMENTS

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2021-Current	Director, HFpEF Clinic, Royal Prince Alfred Hospital, Sydney.
2018-Current	Clinical-Academic Cardiologist, Royal Prince Alfred Hospital, Sydney.
2016-2018	Cardiac Imaging Fellow, Royal Prince Alfred Hospital, Sydney.
2012-2016	Postdoctoral Fellow and Clinical Observer, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA.
2011-2012	Specialist Registrar in Cardiology, Mater Hospital, Dublin, Ireland.
2008-2011	Molecular Medicine Ireland Clinician-Scientist Fellow and Specialist Registrar Cardiology Cork University Hospital, Cork, Ireland.
2007-2008	Specialist Registrar Cardiology, AMNCH, Dublin, Ireland.
2005-2007	Registrar Cardiology, Cork University Hospital, Cork, Ireland.
2001-2005	Intern and House Officer, UCHG, Galway, Ireland.

#### RESEARCH APPOINTMENTS

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2022-Current	Professor of Cardiometabolic Medicine, School of Medical Sciences, Faculty of Medicine and Health, The University of Sydney.
2019-Current	Adjunct Professor, Faculty of Medicine, TU Dresden, Germany.
2021-2022	Associate Professor, Faculty of Medicine, The University of Sydney.
2017-2020	Sydney Medical School Foundation Chapman Fellow.
2016-Current	Group Leader, Cardiometabolic Disease, Heart Research Institute, Sydney.
2012-2016	Postdoctoral Fellow, Genomics and Metabolomics, Massachusetts General Hospital, Harvard Medical School, and Broad Institute of Harvard and MIT, Boston, MA, USA.
2008-2011	PhD scholar, University College Cork, Cork, Ireland.

#### AWARDS AND HONOURS

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2020	American Physiological Society Select Award for Excellence in Scholarship
2019	Sydney Local Health District EMCR Award.
2019	NSW Clinician-Scientist Award.
2018	NSW EMCR Fellowship.
2017	Sydney Medical School Catalyst Award (x 2).
2017	Sydney Medical School Foundation Chapman Fellowship.
2017	“The Big Idea” University of Sydney Innovation Challenge, Finalist.
2016	NSW Ministerial Award for Rising Stars in Cardiovascular Research Excellence.
2016	<b>1<sup>st</sup> Place</b> , Young Investigator Award, <u>American Heart Association</u> (AHA). Functional Genomics and Translational Biology.
2014	1 <sup>st</sup> Place Poster, MGH CVRC at the American Academy of Sciences.
2014	Harvard Medical School Tosteson Award for Medical Discovery.
2014	Poster of Distinction Award, 67 <sup>th</sup> Annual Massachusetts General Hospital Scientific Advisory Committee Meeting.
2013	Travel Award, American Heart Association, Functional Genomics and Translational Biology.
2011	Fellowship of the American Heart Association ( <b>FAHA</b> ).
2011	“Top 30 Outstanding Young People in the World” (Medical Innovation), JCI.
2011	Prof Raymond Shanahan Prize in Cardiovascular Research, University College Cork, Cork, Ireland.
2011	Prof Brian McGovern Overseas Training Fellowship to Massachusetts General Hospital; Cardiac Society; 30,000 Euro.
2011	Travel Award: Growth Hormone Research Society – Insulin-like Growth Factor Society Award; \$3000.
2011	International Recipient of Award to undertake training with American Heart Association nominated mentor.
2011	European Society of Cardiology “First Contact Initiative Award” to visit an affiliated lab to undertake training in a specific skillset; 2,500 Euro.
2011	<b>1<sup>st</sup> Place</b> , Young Investigator Award, <u>Irish Cardiac Society</u> .
2011	<b>1<sup>st</sup> Place</b> , Young Investigator Award, <u>American College of Cardiology</u> .
2011	<b>1<sup>st</sup> Place</b> , Young Investigator Award, <u>American Heart Association</u> (Melvin Judkins Award).

## GRANTS AND FUNDING SOURCES

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2025	CIA: NSW Office of Health and Medical Research Collaborative Grants, “Restoring Energy Generation in Heart Failure”, \$750,000, 2025-2027.
2025	Mentor and Principal Supervisor for NSW OHMR Elite Postdoctoral Fellowship (“Augmenting Ketogenic Therapy for Heart Failure”), awarded to Dr Salva Yurista, MD PhD, for relocation from Harvard Medical School to O’Sullivan lab at University of Sydney, \$500,000.
2024	NHMRC & USYD Research Equipment Grant 2024 - IRMA ID G227486 awarded 12/09/2024, \$160,534. Co-CI with postdoc CI Wang & CI Don. To house the world’s first true mini-MS and accelerate our precision medicine program in Heart Failure.
2023	CIA: NHMRC 2022 MRFF Cardiovascular Health Mission Application 2024161, \$1.5 million, 2023-2026.
2023	AI on NHMRC Ideas Grant, CIA: Alicia Jenkins.
2022	CIA: NSW Office of Health and Medical Research, EMCR grant, \$750,000, 2022-2025.
2022	CI on postdoc Dr Yen Chin Koay CIA’s NSW Office of Health and Medical Research Capacity Building Grant, \$750,000, 2022-2025.
2021	CIA: National Heart Foundation Vanguard Grant, \$150,000, NHF105595, 2021-2023
2021	CIA: HRI UK Grant \$400,000, 2022-2023
2020	CIA/Fellowship: National Heart Foundation, Level 2, Future Leader Fellowship, NHF104853, 2021-2024, \$653,000.
2019	CIA: NSW OHMR Clinician-Scientist Award, 2019-2022, \$750,000.
2019	co-CI: ARC, Leaf Grant, LE190100017, 2021-2022, \$489,045.
2018	CIA: NSW Early-Mid Career Fellowship, 2018-2021, \$595,000.
2018	CIA: NSW Health and Medical Research Sponsorship Program, \$20,000.
2018	CIA: Sydney Medical School Catalyst Award (Two awards totaling \$10,000), \$20,000.
2017	CIA/Fellow: Sydney Medical School Foundation Chapman Fellowship, 2017-2020, \$706,758.
2017	CIA/Fellow: HRI-USyd Cardiovascular Fellowship, \$1 million.
2017	Associate Investigator, NHMRC Program Grant, APP1149976, Nutrition and Complexity, \$12.9 million.
2017	Associate Investigator, Sydney Research Excellence Initiative, “SREI 2020”, University of Sydney, “Connecting oral health and traditional risk factors to health burdens: A new paradigm for understanding and preventing common chronic diseases”; \$150,000.
2015	CIA: Harvard Tosteson Award - Fund for Medical Discovery; USD\$60,000.
2013	Postdoctoral Fellowship: NIH Fund for Medical Discovery Grant, USD\$100,000.
2012	CIA/Fellow: Overseas Training Fellowship, Irish Cardiac Society; 30,000 Euro.
2012	CIA: Clinical Research Project Grant, Mater Foundation, \$50,000.
2010	CIA/Fellow: European Society of Cardiology “First Contact Initiative Award” to visit an affiliated lab to undertake training in a specific skillset; 2,500 Euro.

2008 CIA/Fellow: Molecular Medicine Ireland Clinician-Scientist Fellowship; 380,000 Euro.

## PATENTS

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JOHN F. O'SULLIVAN, ROMAN RODIONOV, STEFANIE BODE BOGER, JENS MARTENS LOBENHOFFER. (2023). BIOLOGICAL MARKERS OF LIVER FAT. PATENT NO. WO-2023035045. AUS: AU2022341129. UK:GB2405042.9. USA:18/690465.

## COMMITTEE SERVICE

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### Local (Ireland)

2007-2008	Digital Patient Database Committee	AMNCH, Dublin, Ireland
2007-2008		Committee Co-Founder and Member
2002-2004	Member of Medical Education Board	UCHG, Galway, Ireland
2002-2004		Undergraduate Clinical Tutor

### Local (Australia)

2022-	Heart Failure Alliance	Chair
2022-	Scientific Executive Committee	Heart Research Institute, Member
2019-	Precision Medicine Pipeline, Cardiovascular Alliance	University of Sydney, Chair
2016-	Cardiovascular Fellowship Recruitment Committee	Member, Heart Research Institute

### National and International

2021-	Expert subgroup on Novel Cardiovascular Risk	National Heart Foundation/ Australian Department of Health
2021-	Innovation Centre, Scientific Executive Committee	Victor Chang Cardiac Research Institute, Member
2019-	MRFF, National Precision Medicine Flagship Steering Committee	Member
2013-	Council on Functional Genomics and Translational Biology	American Heart Association Member
2011-2013	Council on Clinical Cardiology	American Heart Association Member
2010-	Council on Clinical Cardiology	American Heart Association Member
2010-	European Society of Cardiology Working Group on Cellular Biology of the Heart (WG02/234830/20110426)	European Society of Cardiology Member
2007-2012	Council on Arteriosclerosis, Thrombosis & Vascular Biology	American Heart Association Member
2007-	Council on Basic Cardiovascular Science	American Heart Association Member
2007-	Interdisciplinary Working Group on Atherosclerotic Peripheral Vascular Disease	American Heart Association Member

## PROFESSIONAL SOCIETIES

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2007-	European Society of Cardiology (ESC 234830)	Member
2007-	American Heart Association Premium Professional Member (AHA Membership Number 153076916)	Member
2006-	Royal College of Physicians of Ireland	Member
2005-	Irish Cardiac Society (ICS 00319)	Member

#### EDITORIAL ACTIVITIES

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2025-	Scientific Reports, Nature Portfolio	Editorial Board Member
2025-	French National Research Agency, AAPG	Reviewer
2024-	Israel Science Foundation	Reviewer
2023-	The Netherlands Organisation of Health, Research and Development (ZonMw)	Reviewer
2022-	Medical Research Council of the United Kingdom	Reviewer
2022-	Norwegian Research Council	Reviewer
2021-	Research Council of New Zealand	Reviewer
2018-	NHMRC Project/Ideas Grants	Reviewer
2017-	National Heart Foundation Vanguard Grants	Reviewer
2017-	Diabetes Australia General and Millenium Grant Review	Reviewer

#### Regular invited reviewer of articles (at least one per week), for:

Arteriosclerosis, Thrombosis, and Vascular Biology (AHA)

Circulation

Nature Communications

Circulation: Cardiovascular Interventions (AHA)

Circulation: Cardiovascular Imaging (AHA)

European Heart Journal

Circulation Research

Heart (BMJ)

Diabetologia

International Journal of Cardiology

Scientific Reports

#### TRAINING AND ACCREDITATION

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2020	Society for Cardiovascular Magnetic Resonance Imaging, Level III Certification
2019	Fellow of the Royal Australasian College of Physicians (FRACP)
2019	Recognition as Specialist Cardiologist by RACP, Provider Number and Prescription Number with Medicare
2019	Australian Health Practitioner Regulation Agency (AHPRA), Specialist Registration, MED0002041720.
2017	Australian Health Practitioner Regulation Agency (AHPRA), Full Registration, MED0002041720.

2016	Australian Health Practitioner Regulation Agency (AHPRA), Provisional Registration, MED0002041720.
2012	Ionizing Radiation Safety Course, Beaumont Hospital, Dublin, Ireland.
2012	Advanced Cardiac Life Support, Mater Hospital, Dublin, Ireland 2014.
2011	US Educational Commission for Foreign Medical Graduates Certification.
2011	United States Medical Licensing Examination Step 2 CS.
2009	United States Medical Licensing Examination Step 2 CK.
2009	United States Medical Licensing Examination Step 1.
2011	Introduction to Management and Leadership in Doctors, RCPI, Dublin, Ireland.
2010	Fifth European Interventional Cardiology Fellows Course, RCP, London, England.
2009	Cardiac CT Training Course, University College London, England.
2008	Transoesophageal Echocardiography Course, St George's Hospital, London, England.
2006	Licentiate and Member of the Royal College of Physicians of Ireland.
2006	Audit and Research Skills, Cork University Hospital, Cork, Ireland.
2004	Advanced Cardiac Life Support, UCHG, Galway, Ireland.
2001	Advanced Cardiac Life Support, AMNCH, Dublin, Ireland.
2001	Register of Medical Practitioners, Irish Medical Council, Registration Number: 073075.

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#### TEACHING AND SUPERVISION

##### **Post-doctoral**

2024 – Dr Yann Huey Ng, PhD  
2024 – Dr Sophie Lucic Fisher, PhD  
2024 – Dr Hank Han, PhD  
2022- Dr Yann Huey Ng, PhD  
2022- Dr Xiao Suo Wang, PhD  
2020- Dr Cassandra Malecki, PhD  
2021 – Dr Rob Hume, PhD  
2019- Dr Desmond Li, PhD  
2017-2019 Dr Rahul Karup, MBBS  
2017-2019 Dr Jacob Cao, MBBS, BSc  
2016- Dr Yen Chin Koay, PhD  
2010-2011: Dr Alessia Stocca, PhD

##### **PhD Doctoral Theses:**

2025- Bailey McIntosh, BSc  
2024- Michael Rahman, BSc  
2021-2024: Renping Liu, BSc

##### **Masters Doctoral Theses:**

2023-2024: Dr Christian Morkel  
2021-2023: Dr Mark Ishak

##### **Pre-doctoral:**

2024- Lew Wui Yu, BSc  
2022-2025: Bailey McIntosh, BSc  
2018-2020: Gabrielle Fusco-Alison, BSc, MSc



2014-2015: Jordan Morningstar, BS  
2010-2011: Birgitta Gleason, BSc (PhD Student)

**Under-graduate:**

2023-2024: Carolina Barbero, The University of Sydney  
2019-2020 Laura Huggons, University of Bath/ The University of Sydney  
2019-2020 Eve Bellars, University of Bath/ The University of Sydney  
2019 Jason Chami – Talented Students Program, The University of Sydney  
2019 John Park, Honours Student, The University of Sydney  
2019 Courtney Wood, Honours Student, The University of Sydney  
2018-2019 Evangeline Pearson, University of Bath/ The University of Sydney  
2018 Barry Koh, Talented Scientists Program, University of Sydney  
2018 Courtney Wood, Talented Scientists Program, University of Sydney  
2017 Michael To, BSc in Medical Sciences, ANU  
2016 Natalie Joe, 4<sup>th</sup> Year Medical Student, University of Auckland  
2016 Bailey McIntosh, Auckland University of Technology 3<sup>rd</sup> Year Medical Laboratory Sciences

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RESEARCH - PUBLICATIONS

ORCID: 0000-0001-8016-5128

1. The heart has intrinsic ketogenic capacity that mediates NAD<sup>+</sup> Therapy in HFpEF.  
Yen Chin Koay, Bailey McIntosh, Yang Cao, Yann Huey Ng, Yanchuang Han, Saki Tomita, Angela Yu Bai, Benjamin Hunter, Ashish Misra, Christopher M. Loughrey, Paul G. Bannon, Sean Lal, Aldons J. Lusis, David M. Kaye, Mark Larance, **JOHN F. O’SULLIVAN**.  
*Circulation Research* 2025 Apr 11;136(10):1113–1130. PMID: 40211954, PMCID: PMC12063684 <https://doi.org/10.1161/CIRCRESAHA.124.325550>

***Editorialised: “Intrinsic Ketogenic Capacity of the Heart: Mechanisms and Therapeutic Potential”, Rosanna Caputo and Carolina Magdalen Greco***  
***Circulation Research, Volume 136, Number 10***  
<https://doi.org/10.1161/CIRCRESAHA.125.326560>

***Featured as Research Highlight “Ketogenic capacity of the heart determines the outcome of heart failure” in Nature Cardiovascular Research June 2025***  
<https://doi.org/10.1038/s44161-025-00676-4>.

2. Mechanical unloading is accompanied by reverse metabolic remodelling in the failing heart: identification of a novel citraconate pathway.  
David M. Kaye, Xiao Suo Wang, Yen Chin Koay, Mengbo Li, Bailey McIntosh, Yann Huey Ng, Michael Rahman, Yiyang Cao, Francine Z. Marques, Cassandra Malecki, Shane

Nanayakkara, Justin Mariani, Bing Wang, Sean Lal, Giovanni Guglielmi, **JOHN F. O'SULLIVAN**.

*European Journal of Heart Failure* 4 June 2025. <https://doi.org/10.1002/ejhf.3704>

3. Multi-organ multi-omic and gut microbiome markers of fat and sucrose dietary oversupply in cardiometabolic disease.

Ren Ping Liu, Alistair Senior, Zhen Bao, Yen Chin Koay, Andrew Holmes, **JOHN F. O'SULLIVAN**.

*iScience* Volume 28, Issue 4, 18 April 2025. <https://doi.org/10.1016/j.isci.2025.111887>

4. Myocardial post-transcriptional landscape in peripartum cardiomyopathy.

Amy Li\*, Bernard Fang\*, Mengbo Li\*, Yen Koay, Cassandra Malecki, Benjamin Hunter, Dylan Harney, Cris dos Remedios, Mark Larance, **JOHN F. O'SULLIVAN**<sup>#</sup>, Sean Lal<sup>#</sup>.

\*Joint senior author

*Circulation: Heart Failure* 2024 Dec;17(12):e011725.

<https://doi.org/10.1161/CIRCHEARTFAILURE.124.011725>

5. Leveraging metabolism for better outcomes in heart failure.

Yann Huey Ng, Yen Chin Koay, Francine Z Marques, David M Kaye, **JOHN F. O'SULLIVAN**.

*Cardiovascular Research* 2024. 2024 Oct 1:cvae216. doi: 10.1093/cvr/cvae216. PMID: 39351766.

6. The efficacy of risk factor modification compared to NAD<sup>+</sup> repletion in diastolic heart failure.

Yen Chin Koay, Ren Ping Liu, Bailey McIntosh, Niv Vigder, Serlin Lauren, Angela Yu Bai, Saki Tomita, Desmond Li, Dylan Harney, Benjamin Hunter, Yunwei Zhang, Jean Yang, Paul Bannon, Ashleigh Philp, Andrew Philp, David M. Kaye, Mark Larance, Sean Lal, **JOHN F. O'SULLIVAN**.

*JACC: Basic to translational research* 2024 Mar 20;9(6):733-750. doi:

10.1016/j.jacbts.2024.01.011. PMID: 39070276 PMCID: PMC11282886 DOI:

10.1016/j.jacbts.2024.01.011

**Editorialised: Coordinate Targeting of Mitochondrial Energetics, Antioxidant Defenses, and Inflammation: Is NAD<sup>+</sup> Boosting an HFpEF Elixir?**

*Michael N Sack*

[\*J Am Coll Cardiol Basic Trans Science\*, 2024 Jun, 9 \(6\) 751–753, PMID: 39070278,](#)

[PMCID: PMC11282880, DOI: 10.1016/j.jacbts.2024.02.013.](#)

7. Cardiac Substrate Utilization and Relationship to Invasive Exercise Hemodynamic Parameters in HFpEF.

**JOHN F. O’SULLIVAN**, Mengbo Li, Yen Chin Koay, Xiao Suo Wang, Giovanni Guglielmi, Francine Z. Marques, Shane Nanayakkara, Justin Mariani, Eugene Slaughter, and David M. Kaye.

*JACC: Basic to translational research*. 2024 Mar, 9 (3) 281–299.

<https://doi.org/10.1016/j.jacbts.2023.11.006>. PMID: 38559626

**Editorialised: "The Farm to Table HFpEF Kitchen", JACC BTS 2024 Mar, 9 (3) 300–302. PMID: 38559628.**

8. Indole-3-Propionic Acid Protects against Heart Failure with Preserved Ejection Fraction (HFpEF).

Yang Cao, Yu-Chen Wang, Yen Chin Koay, Calvin Pan, Zhiqiang Zhou, Sarada Charugundla, W. H. Tang, Jennifer Wilcox, Xinmin Li, Alexia Zagouras, Francine Marques, Hooman Allayee, David Kaye, **JOHN O’SULLIVAN**, Stanley Hazen, and Aldons Lusi.

*Circulation Research*. 2024 Feb 16;134(4):371-389. doi:

10.1161/CIRCRESAHA.123.322381. Epub 2024 Jan 24. PMID: 38264909 PMCID: PMC10923103.

9. Echocardiographic predictors of cardiovascular outcome in heart failure with preserved ejection fraction.

Nelson Wang, Phidias Rueter, Melvin Ng, Sashiruben Chandramohan, Thomas Hibbert, **JOHN F. O’SULLIVAN**, David Kaye, Sean Lal.

*European Journal of Heart Failure* 2024 May 7. doi: 10.1002/ehf.3271. PMID: 38714362. DOI: 10.1002/ehf.3271.

10. The First Human Normative Ranges and Biomarker Performance of Dimethylguanidino Valeric Acid Isoforms in Fatty Liver Disease.

Sami Qadri, XiaoSuo Wang, Collin Tran, Michael Fitzpatrick, Paul Bonnitche, David Sullivan, Hannele Yki-Järvinen, **JOHN F. O’SULLIVAN**.

*Pathology* 2023 Nov 23:S0031-3025(23)00296-9. PMID: 38071157. DOI: 10.1016/j.pathol.2023.10.006

11. Preventing sheep carotid artery spasm for vascular graft surgery and computed tomography angiography.

Z Wang, H Paterson, L Pater, I Wise, M Adams, D Ng, R Qasabian, **JOHN O’SULLIVAN**, Sean Lal, A Weiss, P Bannon, RD Hume.

*Tissue Engineering Part C: Methods* 30 (8), 335-342, 2024.

12. Ventricle-specific myocardial protein and metabolite characterisation in healthy humans, with differential regulation in end-stage cardiomyopathies.

Hunter, B., Li, M., Parker, B., Koay, Y., Harney, D., Pearson, E., Cao, J., Chen, G., Guneratne, O., **O’SULLIVAN, J.** (2024).

13. Rapid benefits in older age from transition to whole food diet regardless of protein source or fat to carbohydrate ratio: A randomized control trial.

RV Ribeiro, AM Senior, SJ Simpson, J Tan, D Raubenheimer, D Le Couteur, L Macia, A Holmes, J Eberhard, **JOHN O'SULLIVAN**, YC Koay, A Kanjrawi, J Yang, T Kim, A Gosby.

*Aging Cell*, 23 (11), e14276, 2024.

14. Proteomic and metabolomic analyses of the human adult myocardium reveal ventricle-specific regulation in end-stage cardiomyopathies.

Hunter, B., Li, M., Parker, B., Koay, Y., Harney, D., Pearson, E., Cao, J., Chen, G., Guneratne, O., Smyth, G., Larance, M., **O'SULLIVAN, J.F.\***, Lal, S.\*.

Co-senior author.

*Communications Biology*, 7(1), 1666 (2024), <https://doi.org/10.1038/s42003-024-07306-y>.

15. Clinical Pathway for Coronary Atherosclerosis in Patients Without Conventional Modifiable Risk Factors: JACC State-of-the-Art Review.

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#### RESEARCH – BOOK CHAPTERS

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#### INVITED SPEAKER (MEETINGS AND CONFERENCES)

2025	School of Cardiovascular and Metabolic Health (Host: Prof Chris Loughrey), University of Glasgow
2025	Grand Rounds, St Vincent's Hospital, University College Dublin
2025	Cardiac Biochemistry Domain (Host: Prof Michael Murphy), University of Cambridge
2025	Heart Research Institute. Scientific Seminar: HFpEF: Advances in understanding and therapy.
2025	Royal Prince Alfred Hospital, Medical Grand Rounds: HFpEF: Advances in understanding and treatment of a 21 <sup>st</sup> century epidemic
2024	Charite Hospital, Berlin. Plenary speaker: "Cardiometabolic HFpEF: Pitfalls and Opportunities".
2024	Cork University Hospitals, Cork, Ireland. Plenary speaker: "HFpEF: From mitochondria to running shoes"

- 2022 Cardiac Society of Australia and New Zealand Annual Scientific Sessions (invited), Cardiac Remodelling Session, Talk Title: “Sex Disparity in Heart Failure”
- 2022 Novartis Cardiology Conference “HFpEF – New Frontiers”
- 2021 Sydney Cardiovascular Symposium “Novel Insights in HFpEF”
- 2021 European Society of Cardiology, “Meet the Experts”, Exercise and Cardiac Metabolism
- 2021 Cardiac Society of Australia and New Zealand Annual Scientific Sessions, Cardiac Remodelling Session, Talk Title: “Frontiers in HFpEF”
- 2019 Deakin University, Melbourne, Australia, “Frontiers in Diabetic Cardiomyopathy”
- 2019 Special Seminar, “Novel Pathways in Cardiometabolic Disease”, King’s College London
- 2019 Special Seminar, “Precision Cardiovascular Medicine”, TU Dresden
- 2018 Leaders in Science and Society Seminar Series, The Garvan Institute of Medical Research, Sydney, Australia.
- 2018 Joint ASM AAS/AVBS/HBPRCA Meeting, Adelaide, Australia
- 2018 ComBio, Sydney, Australia
- 2018 SAHMRI, Adelaide, Australia
- 2018 Hellenic Cardiology Society, Athens, Greece
- 2017 Aging Conference, Sydney, Australia
- 2017 “New Cardiometabolic Disease Targets”, TU Dresden, Germany
- 2017 Sydney Cardiovascular Symposium, Victor Chang, Sydney, Australia
- 2017 Co-Chair, Metabolism and Systems Biology, ComBio 2017
- 2017 Hunter Valley Systems Biology Meeting, “*Not-So-Low-Hanging Fruit: Non-Targeted Metabolomics*”.
- 2016 Victor Chang Cardiac Research Institute, Sydney; Special Seminar, “Genomics + Metabolomics = Discovery of Novel Cardiovascular Disease Pathways”.
- 2016 Royal North Shore Hospital, Sydney; Cardiology Grand Rounds, “Capturing ‘Not-So-Low’ Hanging Fruit”.
- 2016 Heart Research Institute, Sydney; Cardiovascular Seminar, “Clinical Applications of Metabolomics”.
- 2016 Heart Research Institute Symposium, Sydney; “Discovering Novel Cardiovascular Disease Pathways”.
- 2016 The Woolcock Institute of Medical Research, Sydney; Special Seminar, “Integration of ‘Omics Technologies”.
- 2014 American Academy of Sciences, Massachusetts General Hospital Cardiovascular Research Center Annual Retreat, Boston, USA; “ $\beta$ -Aminoisobutyric Acid as an Exercise-Induced Myokine”.



## Acknowledgement Letter

05/13/2025

John O'Sullivan MD, PhD, Founder and Board Member, Research and Development  
HepatomX Pty Ltd  
Suite 210-F3, 122 Lang Rd  
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NSW 2021 AUSTRALIA

Dear John O'Sullivan MD, PhD:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has received your submission. This submission has been assigned the unique document control number below. All future correspondence regarding this submission should be identified prominently with the number assigned. Failure to do so may result in processing delays. Please send any future correspondence through the CDRH Portal. For more information on the CDRH Portal, please visit [CDRH Portal](#). If you believe the information identified below is incorrect, please contact the Office of Product Evaluation and Quality (OPEQ) submission support at (301) 796-5640 or [OPEQSubmissionSupport@fda.hhs.gov](mailto:OPEQSubmissionSupport@fda.hhs.gov).

Submission Number: Q240712/S001

Received: 05/13/2025

Applicant: HepatomX Pty Ltd

Device: SteaTest

We will notify you when the review of this document has been completed or if any additional information is required. As a reminder, submissions should include the minimum (i.e., least burdensome) amount of information necessary to adequately address its specific regulatory purpose. In accordance with FDA's "[The Least Burdensome Provisions: Concept and Principles](#)", FDA will assess submitted information for relevance to the submission's purpose, but if information is deemed not relevant, it will not be reviewed further and will not be part of the decision-making process. If you are submitting new information about a submission for which we have already made a final decision, please note that your submission will not be re-opened. For information about CDRH review regulations and policies, please visit [Device Advice: Comprehensive Regulatory Assistance](#).

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