

# 2024 ANNUAL REPORT

## **Exercise Medicine Research Institute**

Celebrating 21 years of Research, Education and Community Service



# **2024 HIGHLIGHTS**



Fourth most published University internationally in exercise and cancer. #1 exercise and prostate cancer.

## Two new clinical trials sponsored by ANZUP





EMRI taking a lead role in planning and launch of the International Society of Exercise Oncology







**32,245 1** Patient contacts



**EMRI Practicum Students** 

**EMRI HDR Students** 

72 38 t

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#### **Report from the Director**

I am delighted to present the 2024 Annual Report for the Exercise Medicine Research Institute (EMRI), at Edith Cowan University.

EMRI is a pioneer in the prescription of exercise for the management of chronic disease. By researching solutions for patients and clinicians, we have established best practice in exercise medicine, informed patient management, and improved the efficacy of standard therapies and treatments for disease. Over the past 21 years the Institute has been recognised as an international leader in exercise medicine in the management of chronic disease with primary focus on cancer and neurological conditions - ECU is the highest published University in the world in the field of Exercise and Prostate Cancer and the fourth most published Institution internationally for Exercise and Cancer. Our work is incorporated in national and international quidelines reaching 70 countries (Web of Science 2025) and more than 100 policy documents including the World Health Organisation, the National Institute for Health and Care Excellence, American Society for Clinical Oncology and the European Society for Medical Oncology.



In 2024, EMRI had two clinical trials co-developed and sponsored by the Australian and New Zealand Urogenital and Prostate Cancer Trials Group (ANZUP) with national and international competitive funding pending by NHMRC Clinical Trials and AMGEN (global pharmaceutical company) as industry partner. Both clinical trials are in metastatic prostate cancer where much work is needed to improve outcomes for patients as they experience longer treatments that result in deterioration of physical function and quality of life. We also initiated our funded World Cancer Research Fund Clinical Trial - the ERADICATE study *"Exercise medicine as adjunct therapy during RADIation for CAncer of the prostaTE to improve treatment efficacy"*, in conjunction with the National Imaging Facility WA (NIF) and undertook the first prostate cancer research MRI at NIF in Western Australia.

On the international stage, EMRI took a leadership role in planning and launching the International Society of Exercise Oncology (ISEO) with keynote presentations by EMRI researchers in Boston, USA. EMRI is leading key publications for ISEO with global collaborators from universities and oncology hospitals from North and South America, Europe, Africa and Asia. We continued as the exercise coordinating centre for GAP-4, a global trial in advanced prostate cancer working with the University of California San Francisco. In addition, we had a strong presence in international meetings including ASCO, ESMO Europe, ESMO Asia, and ACSM.

We performed strongly in 2024, with total research income for the year of \$2.154 million and 70 journal papers with 61% including international co-authors published in prestigious journals

such as European Urology Oncology, Breast Cancer Research and Treatment, BMC Cancer and BMJ Open. The Institute supervised 38 HDR students in 2024, and four of EMRI's academic members received EMRI Early Career Researcher Travel Awards to present their research at national and international meetings. Our academics were members of various prestigious national committees including NHMRC, ARC, Prostate Cancer Foundation of Australia, National Breast Cancer Foundation, Healthy Male, Cancer Council Western Australia, and Clinical Oncology Society of Australia.

We hosted international visiting scholars / students from the USA, South Korea, Italy, Brazil and The Netherlands. Dr Christian Nelson, Chief of Psychiatry Services at the prestigious Memorial Sloan Kettering Cancer Center in NYC, USA, delivered presentations to the Western Australian community, academic members, and WA Prostate Cancer Nurses at ECU Joondalup Campus. We were also delighted to host national leaders in cancer research: Professor Lisa Horvath (Medical Oncologist, Chief Clinical Officer and Director of Research at Chris O'Brien Life House, NSW), Professor Lisa Butler (South Australian Immunogenomics Cancer Institute, University of Adelaide), and Professor David Waugh (Pro-Vice Chancellor Health and Medical Research and Engagement, University of South Australia) for a clinical trials development workshop which resulted in a NHMRC Clinical Trials and Cohort Studies application led by EMRI.

Our Vario Health and NeuroMoves Clinics located at ECU Joondalup Campus continue to grow year on year with over 32,000 patient visits in 2024. Two of our Vario Health Clinic clients celebrated their 100th Birthday at EMRI-Vario Health Clinic in 2024 – an outstanding achievement. We also provided 72 practicum student placements for ECU and other WA universities within our clinical services. Ms Kate Mangano received the EMRI 2024 Practitioner of the Year Award, and Mrs Emma Wilson and Ms Jessica Barclay received the 2024 EMRI Professional Excellence Award.

New Adjunct Academic appointment Prof Paulo Ferreira (USYD) NHMRC Fellow joined EMRI to research cancer pain in exercise oncology and we were delighted to welcome ECU's Professor Dawn Penny, an international expert in quality and equity in health and physical education, and ECU's Professor Greg Haff, an international leader in strength training and periodisation.

Here at EMRI we have a strong commitment to diversity and inclusion and are proud that our current staff cohort (gender balance 49% female – 51% male) has representation from 21 countries including Australia, New Zealand, England, Ireland, Switzerland, Spain, Austria, Italy, Greece, Armenia, South Africa, Zimbabwe, China, Philippines, Singapore, Brazil, India, Japan, South Korea, Canada and the United States of America.

I commend the dedicated efforts of all EMRI staff and our students. My sincere appreciation to the Board for their exceptional advice and direction, to the clinicians who actively advocate our research to the community, and patients and consumers who have co-designed our research programs, clinical questions and research agenda. As we did during 2024, we will continue to work with consumers, clinicians, community groups and the best researchers nationally and internationally to respond with targeted research and clinical programs that improve health care and patient outcomes globally.

**Professor Daniel Galvão, FACSM, FESSA, MAICD** Director, Exercise Medicine Research Institute

#### Who We Are

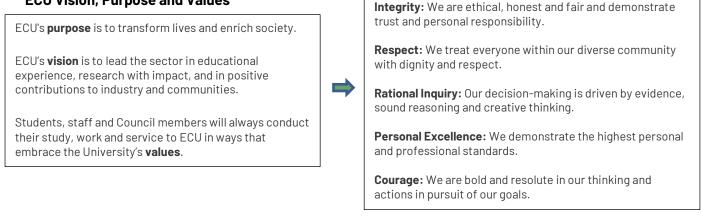
Established in 2003, the Exercise Medicine Research Institute (EMRI) at Edith Cowan University (ECU) is an international leader in exercise as a medicine in the management of chronic disease, with a primary focus on cancer and neurological conditions. The Institute houses an innovative, multidisciplinary and productive research team in exercise medicine, diet therapy, and behavioural medicine that is dedicated to investigating the extent to which exercise can be employed in cancer management to materially improve patient outcomes.

EMRI is a National Health and Medical Research Council (NHMRC) Centre for Research Excellence in Prostate Cancer Survivorship and has received continuous nationally competitive research funding since its establishment including from the National Health & Medical Research Council, Prostate Cancer Foundation of Australia (PCFA), Cancer Australia, Cancer Council Western Australia (WA) and the Movember Foundation.

EMRI has extensive national and international linkages, and continues to build collaboration among researchers, clinicians, industry and government to optimise health and improve the quality of life and survival for people with cancer. The research team's unique convergence of clinical patient care, exercise medicine and innovation in health intervention underpins the Institute's achievement in cancer research.

EMRI established and operates the renowned Vario Health Clinic, the largest and most established community engagement activity of ECU. Vario Health Clinic is the embodiment of seamless integration of research and practical application in the field of exercise medicine. Over the past 15 years, EMRI has recorded in excess of 500,000 patient contacts through research and clinical practice.

#### **ECU Vision, Purpose and Values**



In alignment with ECUs Vision and Goals, EMRI revised its statements in 2024:



We will succeed by continuing our internationally recognised research program undertaken in collaboration with well-established national and international research teams, publishing in highly ranked journals and attracting high citation counts (continue to be ranked #1 in publications and citations in Australia, and within the top 5 internationally), and recruiting strong national and international research students and ECRs. Discoveries are rapidly implemented in our clinical programs offered in the Vario Health Clinic, through our network of clinical collaborators, and through national and international guidelines for patient care.

#### **Strategic Focus**

The Exercise Medicine Research Institute is committed to meeting the goals and objectives of the University's Strategic *Plan 2022–2026: Towards the University of the Future*, which outlines ECU's commitments to achieve its vision as follows:

- Be dedicated to every student's success
- Provide real-world research solutions
- Create partnerships for economic and social wellbeing
- Empower our staff to lead in a diverse and values-based organisation
- Secure our future through innovation and leadership

#### EMRI's goals and priorities

- 1. Attract, support, grow and retain the best researchers
- 2. Undertake world-class research on exercise medicine, from benchtop to bedside
- 3. Ensure exercise medicine is innovative and integrated for patient care
- 4. Change the narrative around management of chronic disease

#### ECU's strategic goals and priorities

1. Delivering an exceptional student experience for success in work and life

- 2. Undertaking impactful world-class research
- 3. Leading the sector in internationalisation
- 4. Empowering the talent and potential of our staff
- 5. Securing our future

## EMRI Research Programs

#### **Exercise and Genitourinary Cancers**

Exercise medicine to reduce the risk of cancer recurrence and improve survival by developing better understanding of how exercise can influence a patient's response to radiation treatment for prostate cancer.

#### **Exercise and Breast Cancer**

Suppressing disease progression and recurrence by creating a tumour suppressive environment through targeted exercise.

#### **Exercise and Gynaecological Cancers**

The role of exercise medicine in gynaecological cancers, such as pre-surgical exercise to enhance post-surgical recovery and outcomes in patients with ovarian or endometrial cancer.

#### **Exercise and Gastrointestinal Cancers**

The role of clinical exercise and sport-based interventions in patients with cancer during treatment, particularly in patients with pancreatic cancer during chemotherapy.

#### **Exercise and Cancer Biology**

Enhancing the efficacy and efficiency of exercise implementation in patients with cancer by investigating physiological mechanisms of how exercise influences tumour biology.

#### **Exercise and Neurological Disorders**

Exercise medicine in neurorehabilitation and incorporating robotics to improve physical structure, function, metabolic and musculoskeletal health.

#### **Exercise and Healthy Aging**

Exercise medicine to restore and preserve musculoskeletal health and physical function, and promote independence in older adults

#### **Exercise and Paediatrics**

Exercise medicine in the setting of growth and development to prevent and manage specific conditions such as childhood cancers

#### **Exercise, Physical Education in Schools**

Promotion and participation in exercise and physical activity programs within schools

#### 2024 in Focus

In line with ECU's strategic goals, key highlights of EMRI's achievements during the year are as follows:

#### ECU Strategic Goal 1 Delivering an exceptional student experience for success in work and life

EMRI promotes a high-level research culture through a model of participation, collaboration and integration. It's an environment in which staff and students share and work towards realising ECU's vision: to lead the sector in educational experience, research with impact, and

HDRs	2024
Number of HDR completions (including PhD and Masters)	5
Number of new HDR enrolments (including PhD and Masters)	9
Total number of HDR candidates (including PhD and Masters)	38
Number of publications co-authored by a HDR candidate	18

in positive contributions to industry and communities.

EMRI has a strong focus on mentoring students and ECRs and we will continue to recruit high quality national/international HDR students. We have continued our industry collaborations with the aim of enhancing scholarship funding, for example obtaining PHD funding with Spinal Cord Injuries Australia (SCIA) and continue to seek further externally funded scholarships.

We continue to invest in projects led by HDRs with funds to improve the quality of data collection and sophisticated assessment techniques. This enhances the competitiveness of their research with the objective to target Q1 journals in publications led by HDR students (for example: Bettariga et al. Breast Cancer Res Treat 2024).

Compliance	
Research Integrity Training (percentage of members completed)	100%
Registered Accredited HDR Supervisors (percentage of members completed)	100%

#### Higher Degree by Research (HDR)

EMRI's objective to foster HDR excellence returned an increase in the total HDR cohort from 35 to 38, with 9 new enrolments at the Institute in 2024.

#### Highlights: Strategic Goal 1 Delivering an Exceptional Student Experience for Success in Work and Life (Continued)

#### **HDR students**

- Abdolrahman Najafi (PhD)
- Angela Uphill (PhD)
- Anna Markarian (PhD)
- Anthony Gould (PhD)
- Arjan Dougan (PhD)
- Bapti Roy (Masters)
- Benjamin Kirk (PhD)
- Bianca lacopetta (PhD)
- Brianna Fleay (Masters)
- Calvinjit Sidhu (PhD)
- Christopher Andrew (PhD)
- Cristina Garcia (PhD)
- Esminio Rivera (PhD)
- Estee Lau (PhD)
- Francesco Bettariga (PhD)
- Haoxuan He (PhD)
- Jiahao Yang (PhD)
- Joao Alves Nunes (PhD)
- Kai Homer (PhD)

- Kate McCreery (PhD)
- Kayla May (Masters)
- Kedar Deshpande (PhD)
- Kylie Cormack (PhD)
- Larissa Hentrich (PhD)
- Lorna Mansell (Masters)
- Maeve Van Drunick (PhD)
- Malcolm Klaver (Masters)
- Maria Grammenou (PhD)
- Matheus Daros Pinto (PhD)
- Min Jyue Huang (PhD)
- Naduni Wijethunga (PhD)
- Nishu Tyagi (PhD)
- Pierce Searle (Masters)
- Sarah Ford (Masters)
- Siavash Naddafha (Masters)
- Thai Hong Ngoc Vo (Masters)
- Thomas Cikoratic (PhD)
- Tsuyoshi Nagatani (PhD)

#### ECU Strategic Goal 2 Undertaking Impactful World-Class Research

EMRI's ongoing research program responds to the constantly evolving clinical treatment of complex conditions. We are discovering the underlying biological mechanisms through which exercise medicine suppresses cancer cell growth and enhances the effectiveness of radiation therapy. We are also investigating if exercise in patients with borderline resectable or locally advanced pancreatic cancer undergoing neoadjuvant therapy can improve patient outcomes, and the potential of telehealth exercise programs in patients who are overweight or obese.

2024 Results: Research Excellence			
Total research income	\$2,154,246 <b>1</b> 6.5% (Vs prior yea	ır)	
Number of publications	70 🕇 20%		
Number of Q1 publications (journal articles)	58 1 57%		
Number of publications with an international co-author	43 1 35%		

EMRI is committed to addressing problems and questions considered priority for patients, clinicians, and NGOs including The World Cancer Research Fund, The Cancer Council of Western Australia, Prostate Cancer Foundation of Australia, Movember, National Breast Cancer Foundation, and Spinal Cord Injuries Australia. Moreover, these priorities align with WA State health priorities:

'Working to provide a high-quality continuum of care spanning health promotion, early intervention and primary care, through to diagnosis, treatment, rehabilitation and palliation'

and Australian National health priorities:

'Reducing the burden of illness, reducing health inequalities, access to quality care and health services across the health continuum, and partnership between all sectors...'

EMRI's research cuts across all these priorities and is particularly focused on the National Health Priority Area of Cancer Control.

#### **Active Research Grants**

- 2024-2027, Exercise medicine as adjunct therapy during RADIation for Cancer of the prostaTE to improve treatment efficacy the ERADICATE study: a phase II randomized controlled trial, World Cancer Research Fund, Investigator Initiated Grant, **\$534,960.**
- 2024-2026, Enhancing circulatory myokines and extracellular vesicle uptake with targeted exercise in patients with Prostate Cancer: The MYEX Trial, World Cancer Research Fund, Pilot Grant, **\$117,156**.
- 2024-2025, Exercise as a novel therapeutic approach for sensitising prostate cancer to radiotherapy, Department of Health WA, WA Near-miss Awards: Ideas, **\$100,000.**
- 2024-2029, Spinal Cord Injuries Australia Industry Scholarship, Spinal Cord Injuries Australia, PhD Scholarship, **\$115,500.**
- 2024-2025, Is a combined exercise and nutrition intervention before surgery beneficial for women with endometrial cancer? Cancer Council of WA Inc/Suzanne Cavanagh Early Career Investigator Grants, \$34,834.
- 2024–2025, Exercise as a novel therapeutic approach for sensitising prostate cancer to radiotherapy, Cancer Australia, Priority-driven Collaborative Cancer Research Scheme, \$97,665.
- 2024-2025, Cancer suppression, cytokine levels and body composition variation across prostate cancer stage and treatments: The CYTOCOMP Study, Cancer Council of WA, Suzanne Cavanagh Early Career Investigator Grant, **\$34,500**.
- 2023-2028, Optimizing care of malignant and benign pleural diseases, Institute of Respiratory Health, Scholarships to support Industry Engagement PhD projects, **\$105,000**.
- 2023 2026 ISC-TEAM: Integrative Supportive Care Trial to Enhance physical Activity in Malignant pleural effusion, Institute for Respiratory Health, Scholarships to Support Industry Engagement PhD Projects, **\$166,350**.
- 2023-2027, Understanding bone health in AFL and AFLW athletes, West Coast Eagles Football Club, PhD Scholarship, **\$45,000**.
- 2023-2025, Spinal Cord Injury Collaborative Research Program: A partnership between Spinal Cord Injuries Australia (SCIA) and ECU, Spinal Cord Injuries Australia, Collaborative Research Program Grant, **\$2,138,503**.
- 2022-2025, Exploring the gap in supportive cancer care in rural and remote WA, Department of Health WA, Future Health Research and Innovation Fund – Implementation Science Fellowship, **\$731,186.**
- 2022-2027, SCIA Industry Scholarship, Spinal Cord Injuries Australia, PhD Scholarship, **\$105,000.**
- 2023-2025, Postdoctoral Research Fellowship, Cancer Council WA, **\$225,000.**
- 2022-2026, A multicomponent exercise medicine program in patients with pancreatic cancer undergoing neoadjuvant therapy (the EXPAN trial): A two-armed phase I randomised controlled trial, National Health & Medical Research Council, MRFF Clinical Trials Activity (Rare Cancers, Rare Diseases and Unmet Need) Initiative, **\$561,910**.
- 2021-2025, Prostate cancer survivorship essentials for men with prostate cancer on androgen deprivation therapy: Transforming care to improve outcomes, National Health & Medical Research Council, Partnership Project Grant, **\$2,250,000**.
- 2021-2026, Advancing Treatment of Pleural Infection, Institute for Respiratory Health, Scholarships to Support Industry Engagement PhD Projects, **\$122,500.**

- 2021-2026, The Australasian Malignant PLeural Effusion (AMPLE) Trial 3: A randomised study of the relative benefits of combined Indwelling Pleural Catheter (IPC) and talc pleurodesis therapy or Video-Assisted Thoracoscopic Surgery (VATS) in the management of patients with Malignant Pleural Effusion, Institute for Respiratory Health, Scholarships to Support Industry Engagement PhD Projects, **\$227,500.**
- 2021-2025, Australasian Malignant Pleural Effusion (AMPLE)-3 trial, National Health & Medical Research Council, Clinical Trials and Cohort Studies, **\$1,105,749.**
- 2021-2025, Weight loss for overweight and obese prostate cancer patients: A randomised trial of a clinic-based versus telehealth delivered exercise and nutrition intervention, Cancer Council WA, Prostate Cancer Research Initiative, \$472,739.
- 2019-2024, SCIA Scholarship, Spinal Cord Injuries Australia, Scholarships to Support Industry Engagement PhD Projects, **\$105,000**.
- 2018-2024, An exploratory study to determine if exercise can impact the gut microbiota composition of men receiving androgen suppression therapy for prostate cancer, Prostate Cancer Foundation of Australia, Grant, **\$98,875**.
- 2018-2026, Intense Exercise for survival among men with Metastatic Castrate-Resistant Prostate Cancer (INTERVAL – MCRPC): A multicentre, randomised, controlled, phase III study, The Movember Group, Movember – GAP4 Prostate Cancer Exercise and Metabolic Health, \$635,910.
- 2016-2024, Centre for Research Excellence in Prostate Cancer Survivorship (CRE-PCS), National Health & Medical Research Council, Centres of Research Excellence, **\$1,172,654**.



Prostate Cancer Foundation of Australia









#### **Collaboration and Engagement**

EMRI's research program is supported by solid and extensive collaboration with specialists who have distinguished international reputations in the following disciplines: clinical exercise physiology, exercise oncology, medical oncology, radiation oncology, urology, psycho-oncology and epidemiology. We have developed long-established collaborations with leading hospitals, specialist centres and organisations, and universities/researchers nationally and internationally.

Indeed, our work and the outcomes that arise from it are dependent on these collaborations. Consequently, the number of collaborations EMRI have includes prominent research from a number of national universities including University of New South Wales, University of Sydney, University of Melbourne, Monash, University of Queensland, University of Adelaide, University of South Australia, QUT, Australian Catholic University, University of Southern Queensland. Additionally, we hold strong international collaborations with some notable examples being University of California San Francisco, University of Montreal, University of Alberta and University of Cologne. These connections are reflected in our outputs and publications with EMRI linking over 60% of its publications to international collaborations.

Moving forward, we will continue with our visiting research fellow program to bring international leaders to EMRI to interact with staff and students and develop collaborative links. In 2024 we hosted five international visiting fellows from USA, South Korea, Italy, Brazil and The Netherlands. Dr Nelson, Chief of Psychiatry Service at prestigious Memorial Sloan Kettering Cancer Center in NYC, USA, delivered presentations to Western Australian community, academic members scientific, WA Prostate Cancer Nurses at EMRI Joondalup Campus.

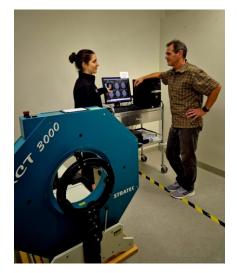
We were also delighted to host national leaders in cancer research: Professor Lisa Horvath (Medical Oncologist and Chief Clinical Officer and Director of Research at Chris O'Brien Life House, NSW), Professor Lisa Butler (South Australian Immunogenomics Cancer Institute, University of Adelaide); and Professor David Waugh (Pro-Vice Chancellor Health and Medical Research and Engagement, University of South Australia) for a clinical trials workshop development which resulted in a NHMRC Clinical Trials and Cohort Studies application led by EMRI.



Above Left: EMRI Prof. Robert Newton with Anita Borsati, PhD student in Biomedical, Clinical and Experimental Sciences University of Verona

Above Right: EMRI Prof. Daniel Galvao with Pieter-Gerard Hoevers, Radboud University, Netherlands

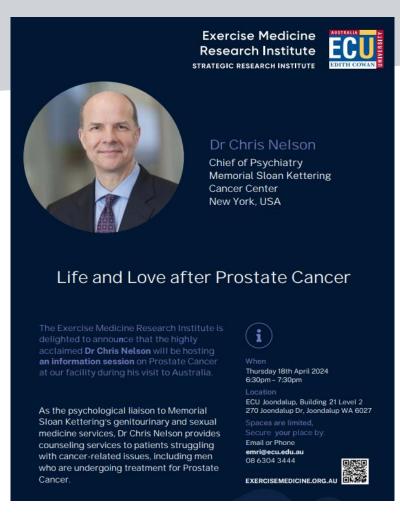
Below: Professor Ronei Pinto from the Laboratório de Pesquisa do Exercício (LAPEX) at Universidade Federal do Rio Grande do Sul (UFRGS), Brazil and Anna Markarian EMRI PhD Student.



EMRI continues to solidify relationships with industry partners including Cancer Council of Western Australia, Prostate Cancer Foundation of Australia, Spinal Cords Injuries Australia (SCIA) and Movember. We collaborate to provide much needed services and knowledge to the community in addition to delivering on research projects from funds received from multiple organisations nationally and internationally.

EMRI's long-standing partnership with SCIA provides an exercise rehabilitation program called NeuroMoves, a program for people with spinal cord injury/acquired brain injury. In addition, EMRI's Vario Health Clinic continues to implement clinical research findings into practice, serving as a commercial venture as well as a teaching/practicum site for students at ECU and other Universities. To date, there have been over 500,000 research / clinic client presentations, validating the ongoing demand for these services in the local community.

#### **EMRI Community Engagement Initiatives/Service**



EMRI was delighted to host both a guest speaker community event and a WA PCFA PCSNs round table education session with the acclaimed Dr Chris Nelson, Chief of Psychiatry at Memorial Sloan Kettering Cancer Centre, New York.



Both events provided high impact collaborations and discussions for those facing the journey of a cancer diagnosis and for the nurses who travelled from regional locations who also had the opportunity to see EMRIs facilities where they regularly refer patients to for exercise interventions. EMRI was proud to provide the local community with opportunities to utilise our global industry connections. EMRI supports calls for donations for Cancer Council on Daffodil Day, which raises vital funds for local researchers to continue their work to uncover breakthrough cancer discoveries.





Double Centenarian Celebrations! Two Vario Health Clinic long-standing clients celebrated their 100<sup>th</sup> Birthday's in 2024



Left: EMRI and the Vario Health Clinic team joined ECU Health at the City of Wanneroo Active Ageing Expo. Right: Vario Health Clinic team joins ESSA (Exercise and Sports Science Australia) to host a stand at the Ageing Well Expo in Perth.



EMRI successfully delivered the Cancer Council Life Now program to 40 cancer patients in 2024. The program, originally developed by EMRI in collaboration with CCWA, is designed to provide patients and their carers the opportunity to attend an exercise group, led by our team of Accredited Exercise Physiologists, specialising in exercise oncology which builds strength, fitness and the confidence to exercise into the future. In 2024 the statewide program was updated to include participants with bone metastases, based on research undertaken by EMRI.



Above: The EMRI team represented ECU at the Cancer Council Relay for Life (24-hour sponsored walk) raising funds for cancer research and prevention.



EMRI partnered with Breast Cancer Care WA to deliver a new online exercise program to remote clients, supporting the community with research translation in exercise oncology.

#### Impact

EMRI's research program developed and tested targeted exercise interventions to reverse treatment-related toxicities and improve patient outcomes that have changed the clinical management of people with cancer worldwide. Our work is incorporated in national and international guidelines reaching 70 countries (Web of Science 2025) and 107 policy documents including World Health Organisation (WHO), The National Institute for Health and Care Excellence (NICE), American Society for Clinical Oncology (ASCO) and European Society for Medical Oncology (ESMO).



#### ECU Strategic Goal 3 Leading our Sector in Internationalisation

In 2024, EMRI continued to nurture existing collaborations through targeted conference attendance in addition to pursuing prestigious international partnerships and visitors to our Institute.

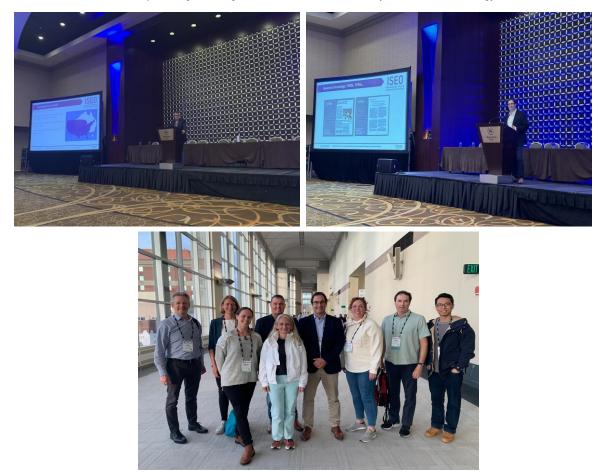
## EMRI Global Reach 2024 Research Collaborations:



EMRI continues to lead the INTERVAL-GAP4 global project with 20 trial sites across 10 countries. Long-term industry partnerships include global pharmaceutical company Abbvie, multinational pharmaceutical and biotechnology company AstraZeneca, and Technogym, which is the pre-eminent exercise equipment company in the world.

## American College of Sports Medicine (ACSM) and International Society of Exercise Oncology (ISEO)

Professor Rob Newton (left) and Professor Daniel Galvão (right) presenting at the American College of Sports Medicine (ACSM) and the planning meeting for the International Society of Exercise Oncology (ISEO)



Left to right: Prof Kerry Courneya (EMRI Adjunct Prof), A/Prof Laurien Buffart (EMRI Adjunct A/Prof), EMRI: Prof Robert Newton, Prof Daniel Galvao, Dr Carolyn McIntyre, Prof Dennis Taaffe, Dr Hao Luo, Dr Rebekah Wilson (Harvard, EMRI former PhD student), Dr Mary Kennedy (ECU Post Doc, EMRI former PhD student).



Left to right: Prof Dennis Taaffe, Prof Robert Newton, Dr Rebekah Wilson (Harvard, EMRI former PhD student), A/Prof Laurien Buffart (EMRI Adjunct A/Prof), Dr Carolyn McIntyre, Prof Daniel Galvao, Assistant Professor Ciaran Fairman (University of South Carolina, EMRI former Post Doc) Dr Mary Kennedy (ECU Post Doc, EMRI former PhD student), Dr Hao Luo.

#### ECU Strategic Goal 4 Empowering the Talent and Potential of our Staff

In line with the strategic priorities of ECU's goal to increase support for staff to maximise their talent and potential as individuals, members of teams and through their professional network, EMRI identified the need to develop professional courses for exercise physiologists, physiotherapists, medical and nursing professionals, who work with cancer patients and survivors.

The development and ongoing delivery of an Exercise Oncology professional development course (certified by ESSA) not only empowers our highly trained teams to teach other industry colleagues but also supports EMRIs unique point of difference as a knowledge leader in exercise medicine. In 2024, 27 medical and allied health professionals completed the online course with plans underway to deliver face-to-face workshops across Australian cities, further cementing our foothold in this important space.

Additionally, EMRI continues to provide professional development opportunities to the staff through the annual EMRI Career Development Support Awards whereby our teams are provided funds to enhance technical skills or connections at relevant conferences.



#### Exercise Oncology at ECU

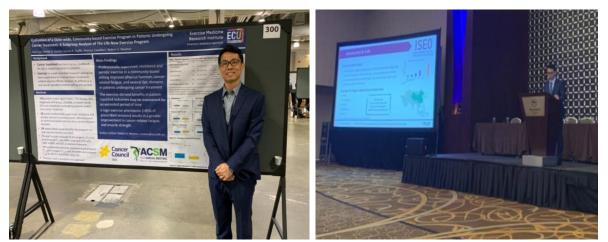
'Exercise Oncology at ECU' is a professional development course for exercise physiologists who work with cancer patients and survivors. This course is designed to provide the knowledge and skills required to design and implement safe and effective exercise programs for people with cancer. The course also provides critical information required for allied health professionals to provide effective advice about the role of exercise in the management of cancer. The course comprises of two components, a suite of theoretical modules completed online and a one day practical workshop.

Date: Contact provider CPD points: 15



#### **Awards and Recognition**

- Dr Carolyn McIntyre received an International Conference Travel Award (ACSM and ISEO USA) and funding to attend the WA women in Leadership Summit.
- Dr Hao Luo received an International Conference Travel Award (Invited speaker at ISEO / ACSM USA).



Dr Hao Luo at the 2024 American College of Sports Medicine Annual Meeting.

• Dr Jin-Soo Kim received an International Conference Travel Award (Invited speaker Exercise Oncology symposium in Korea).





Above: Dr Jin-Soo Kim (left) and Prof. Katie Schmitz (University of University of Pittsburgh).



• Dr Oliver Schumacher received a National Travel Award. (Invited speaker at APCC/ ANZUP)

Dr Oliver Schumacher presented at the 24<sup>th</sup> Asia Pacific Prostate Cancer Conference.

• Professor Rob Newton elected to Fellowship of the Australian Academy of Health and Medical Sciences

#### ECU's Prof Rob Newton elected to the AAHMS

Edith Cowan University (ECU) Professor of Exercise Medicine, Professor Rob Newton, has been elected to the Australian Academy of Health and Medical Sciences.



The Fellowship award is a recognition of exercise medicine as an essential part of overall health and medical research.

- Ms Kate Mangano (AEP) received the 2024 Practitioner of the Year Award. (Left)
- Mrs Emma Wilson (AEP) received a Professional Excellence Award. (Middle)
- Ms Jessica Barclay (AEP) received a Professional Excellence Award. (Right)

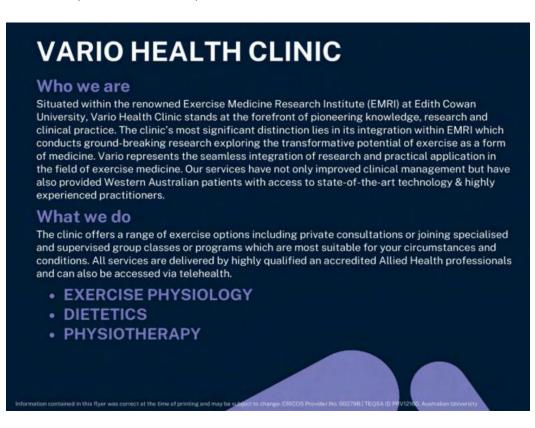


#### ECU Strategic Goal 5 Securing our Future

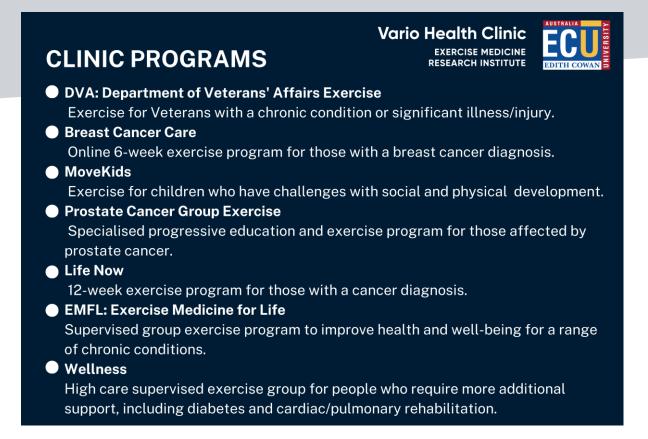
EMRI's advanced, world-class facilities enable the transformation of teaching, learning and research into real-world practice. For 21 years, we have secured funding for research equipment and clinical and research personnel from the NHMRC, PCFA, Commonwealth and State Departments of Health, and from philanthropic support – a testimony to our reputation.

In 2024 EMRI initiated and implemented the ERADICATE study funded by the World Cancer Research Fund (WCRF) in conjunction with the National Imaging Facility WA (NIF). This is the first prostate cancer research study to utilise this MRI facility.

Vario Health Clinic, the Institute's vehicle to deliver clinical exercise programs, returned a strong performance in 2024 whereby clinical contacts, revenue and the demographic of attendees met expectations for the period.



Vario Health Clinic offers a multidisciplinary approach, and we actively foster a sense of community through specialised group exercise sessions for cancer patients and survivors, veterans, people with ongoing chronic conditions and children with physical and developmental challenges. The clinic's extensive history bears testament to our effectiveness in enhancing not only physical function and independence but also the overall quality of life for those affected by chronic conditions. In addition to one-to-one consults that are uniquely tailored to the specific needs and conditions of each individual, we also deliver 50+ evidence-based group sessions per week.



Vario Health Clinic continues to transform lives through exercise medicine alongside:

 Generating and growing a revenue stream to be reinvested into the Exercise Medicine Research Institute to acquire new infrastructure, equipment and support research costs.

Year	Patient Visits
2021	28,786
2022	29,082
2023	30,225
2024	32,245

In 2024 the Vario Health Clinic received 974 referrals from 302 General Practitioners and clinical visits continue to grow year on year.

A key initiative of Vario Health Clinic is to expand the demographic of clients attending and in 2024 additional operational hours were introduced to target the working population in addition to securing regular referrals from workers compensation and supporting clients to successfully return to the workplace.



6am sessions

## 2) Translating ground-breaking research into practise, supporting the community with world class care for a range of chronic health conditions, principally cancer.

In 2024, we developed a targeted exercise program for Prostate Cancer survivors alongside 'Ask the Expert' sessions, utilising our internal and industry connections.



In partnership with Breast Cancer Care WA, during 2024 we developed and delivered an Online Exercise Medicine program for Breast Cancer patients, further supporting the community with convenient 'virtual' exercise services, directly translated from EMRI research activities.



Above: EMRI's Claire Mason AEP / Research Assistant delivered the 2024 Telehealth program to BCCWA

 Attract and grow an elite team of practitioners who will also support the development of future talent by the delivery of best in industry student practicum placement opportunities.

Vario Health Clinic attracted new and emerging talent in 2024 including Accredited Exercise Physiologists and Physiotherapists. All our practitioners are now qualified to a Masters / PhD level (or in process) resulting in a calibre of service rarely matched in the marketplace. We continue to invest in our people with ongoing professional development opportunities that align with our future clinical strategies. In turn, our goal is for Vario Health Clinic to be the practicum placement of choice.



Students from the University of Sri Jayewardenepura completed a placement at the Vario Health Clinic.

#### **Major Clinical conditions treated 2024**

- Cancer
- Neurological conditions including spinal cord injury, brain injury, stroke, Parkinson's disease
- Musculoskeletal disease (including arthritis, osteoporosis/osteopenia, acute and/or chronic musculoskeletal issues)
- Metabolic disease (diabetes, weight management)
- Cardiovascular disease
- Mental health conditions
- Coronary Artery Disease (CAD)



Vario Health Clinic Accredited Exercise Physiologists

#### Governance

EMRI is governed by an external Advisory Board, which oversees compliance of the Institute's governance responsibilities and provides strategic advice. An internal Management Committee manages and steers the Institute's operations and affairs.

#### Meetings in 2024

Number of External Advisory Board meetings held in 2024 (for Institutes)	1 Group Advisory Board meeting and 6 individual meetings with members
Number of Management Committee meetings held in 2024	23
Number of Steering Management Committee meetings held in 2024	4
Number of ECR Mentoring meetings held in 2024	96

#### **Advisory Board Members**

- Chair: Ms Francesca Rogers, Urology Clinical Nurse Consultant, Ramsay Health Care
- Professor Suzanne Chambers, Executive Dean, Faculty of Health Sciences, Australian Catholic University
- Professor Paul Lavery, Centre for Marine Ecosystems Research, Edith Cowan University
- Dr Tom Shannon, Urologist, The Prostate Clinic
- Ms Anne Elam, Consumer Representative, Vario Health Clinic

#### **Management Committee**

- Professor Daniel Galvão, Director, Exercise Medicine Research Institute
- Professor Robert Newton, Deputy Director, Exercise Medicine Research Institute
- Ms Amanda Hall, Strategic Business Manager, Exercise Medicine Research Institute
- Professor Dennis Taaffe, Professor, Exercise Medicine Research Institute
- Mrs Cailyn Walker, Research Coordinator, Exercise Medicine Research Institute

#### **Steering Management Committee**

- Chair: Professor Daniel Galvão (Director of EMRI)
- Leadership Team: Professor Robert Newton (Deputy Director EMRI), Professor Dennis Taaffe, Mrs Amanda Hall (Strategic Business Manager), Mrs Cailyn Walker (Research Coordinator)
- Associate Dean (Research): A / Professor Claus Christophersen
- Early career researcher: Dr Hao Luo
- HDR: Ms Cristina Garcia

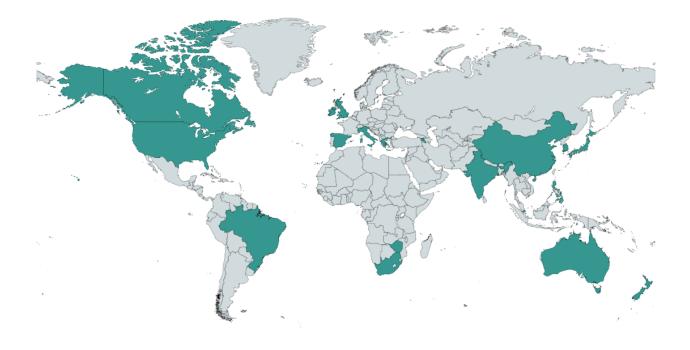
#### **External Committee Appointments**

- NHMRC Grant Review Panel Member Clinical Trials and Cohort Studies, Daniel Galvão
- Research Grants Committee of the Medical and Scientific Advisory Panel, Cancer Council WA, Rob Newton
- 24<sup>th</sup> Asian-Pacific Prostate Cancer Conference 2024, Daniel Galvão
- National Research Advisory Committee, Prostate Cancer Foundation of Australia, Daniel Galvão
- International Society for Exercise Oncology (ISEO), Daniel Galvão and Rob Newton
- The Healthy Male Member, Board of Directors, Rob Newton
- Review of the 2016 clinical practice guidelines for prostate specific antigen (PSA) testing & early management of test-detected prostate cancer - Expert Advisory Panel for Prostate Cancer Foundation of Australia, Rob Newton
- Australian Research Council Medical Research Advisory Group, Rob Newton
- National Breast Cancer Foundation, Scientific Committee, Rob Newton
- National Strength and Conditioning Association, Greg Haff
- Cancer Council Western Australia Postdoctoral Committee, Carolyn McIntyre
- Cancer Council WA Pre-doctoral Research Grants Advisory Subcommittee, Oliver Schumacher
- Cancer Council WA Pre-doctoral Research Grants Advisory Subcommittee, Favil Singh
- Australian Strength and Conditioning Association, Greg Haff
- United Kingdom Strength and Conditioning Association, Greg Haff
- Editorial Board for Journal of Gerontology Medical Sciences, Journal of Science and Medicine in Sport, Journal of Gerontology and Geriatrics, JSAMS Plus, Dennis Taaffe
- Contributing Member of the Clinical Oncology Society Australia (COSA) Membership Committee, Caitlin Fox-Harding
- Clinical Oncology Society of Australia, Development of a Toolkit to support implementation of the COSA Malnutrition and Sarcopenia position statement recommendations, Project Steering Group, Carolyn McIntyre



#### **Staff Profile**

EMRI has a strong commitment to diversity and inclusion and are proud that our current staff cohort (51% male / 49% female) has representation from 21 countries including Australia, New Zealand, England, Ireland, Switzerland, Spain, Austria, Italy, Greece, Armenia, South Africa, Zimbabwe, China, Philippines, Singapore, Brazil, India, Canada, United States of America, Japan and South Korea.



#### **Academic Staff**



**Professor Daniel Galvão** Director Lead, Exercise & Genitourinary Cancers



Dr Carolyn McIntyre Lead, Exercise & Gynaecological Cancers



Professor Greg Haff Strength and Conditioning



Dr Oliver Schumacher Co-Lead, Exercise & Genitourinary Cancers



Dr Caitlin Fox-Harding Exercise Science



Professor Rob Newton Deputy Director Lead, Exercise & Cancer Biology



Professor Ken Nosaka Exercise & Sports Science



Dr Christelle Schofield Co-Lead, Exercise & Gynaecological Cancers



**Dr Jin-Soo Kim** Co-Lead, Exercise & Cancer Biology



Dr Favil Singh Exercise Physiology



Professor Dennis Taaffe Lead, Exercise & Gastrointestinal Cancers



Professor Dawn Penney Health and Physical Education



**Dr Hao Luo** Co-Lead, Exercise & Gastrointestinal Cancers



Dr Kristina Kendall Exercise Science



Professor Dylan Edwards Neurorehabilitation

#### **Professional Staff**



**Amanda Hall** Strategic Business Manager



Emma Wilson Clinic Coordinator



Claire Mason Accredited Exercise Physiologist Research



Kate Mangano Accredited Exercise Physiologist Vario Health Clinic



Karin Jeffery Research Centre Officer



Cailyn Walker Research Coordinator



Sam Adams Accredited Exercise Physiologist Research



Adam Kopp Accredited Exercise Physiologist Vario Health Clinic



**Emma Apps** Research Centre Officer



Nathalie Long Accredited Exercise Physiologist



Lydia Yap Accredited Exercise Physiologist Research



**Ross Anestoudis** Accredited Exercise Physiologist Vario Health Clinic



**Jessica Barclay** Accredited Exercise Physiologist NeuroMoves Clinic



Joel Latham Accredited Exercise Physiologist NeuroMoves Clinic



Vishaan Devchand Physiotherapist NeuroMoves Clinic



Dr Analise Nicholl Accredited Practicing Dietitian Vario Health Clinic



Daley Peters Accredited Exercise Physiologist NeuroMoves Clinic



Marco Kapp Accredited Exercise Physiologist NeuroMoves Clinic



**Josh Thomas** Accredited Exercise Physiologist NeuroMoves Clinic



Hayley Paterson Accredited Exercise Physiologist NeuroMoves Clinic



Nathanael Worthy Accredited Exercise Physiologist NeuroMoves Clinic



**Krunali Patel** Physiotherapist Vario Health Clinic

#### **Adjunct Academic Staff**

Associate Professor Laurien Buffart VU University Medical Centre, Amsterdam

**Clinical Associate Professor Tim Clay** Icon Cancer Care Midland

Associate Professor Vinicius Cavalheri South Metropolitan Health Service, Curtin University

**Professor Suzanne Chambers** Australian Catholic University

**Clinical Associate Professor Raphael Chee** GenesisCare and Perth Radiation Oncology

**Professor Kerry Courneya** University of Alberta, Canada

**Clinical Associate Professor Kynan Feeney** St John of God Hospital (Murdoch)

**Professor Frank Gardiner** Royal Brisbane and Women's Hospital

**Associate Professor Nicolas Hart** Caring Futures Institute Cancer Survivorship Program, Flinders University

**Dr Emily Jeffery** Curtin University

**Clinical Professor David Joseph** 5D Clinics

**Dr John Campbell** University of Bath

Associate Professor Silvano Zanuso Coventry University **Professor Paulo Ferreira** The University of Sydney

**Professor William Kraemer** The Ohio State University

**Professor Gary Lee** University of Western Australia Medical School

**Professor Fred Saad** Chum Research Centre, Université de Montréal

**Professor Christobel Saunders** The University of Western Australia Medical School

**Clinical Associate Professor Tom Shannon** The Prostate Clinic

**Clinical Professor Aris Siafarikas** Princess Margaret Hospital

**Clinical Professor Nigel Spry** Exercise Medicine Research Institute

**Clinical Associate Professor Colin Tang** Sir Charles Gairdner Hospital and 5D Clinics

**Clinical Associate Professor Daphne Tsoi** St John of God Hospital (Subiaco and Murdoch)

**Dr Yvonne Zissiadis** GenesisCare and Fiona Stanley Hospital

**Mrs Francesca Rogers** Mens Health Collective

**Associate Professor Tuguy Esgin** Curtin University

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#### **EMRI Consumer Reference Group**

#### **Purpose and Aim**

The purpose of the Consumer Reference Group is to provide a community perspective on the research conducted by the Exercise Medicine Research Institute. The consumer reference group aims to increase the consumer, carer and community participation in the planning, delivery, and evaluation of research studies. This aim is aligned with the National Health and Medical Research Council and Consumers Health Forum's Statement on Consumer and Community Involvement in Health and Medical Research (2016).

In 2024 EMRI continued with targeted consumer engagement to support specific streams of research including prostate cancer, breast cancer, ovarian cancer, pancreatic cancer. These opportunities have provided important opportunities to connect our Higher Degree Research students and academic staff at EMRI with our consumer representatives. Our next consumer reference group meeting is planned for late June 2025.

#### **Community Members:**

Anne E, Maureen T, Gary T, Lynne S, Adrienne M, Greg K, John M, Delese B, Jack D

#### **EMRI** Facilitators

Convenor: Dr Carolyn McIntyre; Senior Lecturer Prof. Daniel Galvao; Director Exercise Medicine Research Institute

#### **EMRI** Contributors

Dr Oliver Schumacher; Post-Doctoral Research Fellow

Dr Hao Luo; Post-Doctoral Research Fellow

Mrs Cailyn Walker; Research Coordinator

Ms Lydia Yap; Accredited Exercise Physiologist

#### **EMRI SciVal Rankings**

#### International Standing



SciVal

Ranking	Institution	Scholarly Output	Views	Field- Weighted Citation Impact	Citation Count
1	University of Toronto	113	2,234	1.20	1,123
2	University of Alberta	112	2,911	2.37	3,411
3	University of Queensland	99	3,323	1.41	1,602
4	Edith Cowan University	95	3,781	1.74	2,134
5	University of Calgary	88	1,995	1.39	1,988
6	Dana-Farber Cancer Institute	77	1,728	2.35	1,988
7	University of Texas MD Anderson	73	1,578	1.78	1,500
	Cancer Center				
8	University of British Columbia	70	2,014	3.38	3,615
9	German Cancer Research Center	67	1,611	2.56	2,487
10	University of Melbourne	67	2,164	1.26	798

SciVal - Topic T.1425 Malignant Neoplasm; Breast Cancer; Quality of Life (Exercise Oncology) 5-year data (2019-2024 data) search from January 2025

#### **Publications**

#### Research Articles (EMRI Members, PubMed Indexed Papers)

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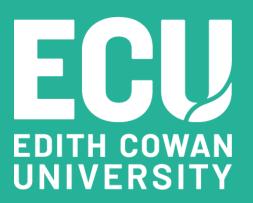
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