

World-Leading Research World-Changing Impact

STRATEGIC RESEARCH FRAMEWORK: 2015–2024





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Foreword – Vice-Chancellor



It is with great pleasure that I commend to you this Strategic Research Framework. It is the first of the seven strategic priorities described in *Our University: A Framing of Futures* to be brought to life as a fully-fledged framework, and I congratulate the Deputy Vice-Chancellor (Research) and his team for their work in bringing it to fruition.

These pages outline ambitious goals that will stretch our people, our processes and our infrastructure, but success will firmly establish this University as one of substance, excellence, integrity and esteemed reputation on the global stage.

Our University has extraordinary potential, and this framework is a blueprint for future excellence in research. I look forward with great anticipation to the years ahead, and the continuation of our ascendance as an open, engaged and audacious research community.

A handwritten signature in black ink, reading "S. Bruce Dowton".

Professor S Bruce Dowton MB BS
MD FACMG FRACP
Vice-Chancellor and President





Australian
Hearing Hub

Foreword – Deputy Vice-Chancellor (Research)

Although relatively young
– 50 years since foundation
– Macquarie University
has already established
an enviable reputation for
research excellence.



World-Leading Research; World Changing Impact charts an exciting course for Macquarie University's research over the next ten years, articulating key objectives and research priorities designed to guide and propel our research performance to even greater heights. *World-Leading Research; World-Changing Impact* aligns with the University's long-term aspirations as expressed in *Our University: A Framing of Futures* and aims to support the achievement of the seven strategic priorities while having a particular focus on Strategic Priority 2 – *An accelerating and impactful performance in discovery*.

As a University we have an important responsibility to add value with the research we choose to pursue. Seizing the opportunity to collaborate with industries, governments, communities, professions and academic colleagues here and around the world is paramount to our success.

As we continue to attract the best and brightest, Macquarie remains committed to creating a research-enriched learning environment that harmoniously weaves research and teaching excellence together, in a manner that allows our students to learn, develop and flourish as leaders for the future. This research and teaching nexus is central to Macquarie's core values and strategic ambitions.

We remain committed to excellence in a broad range of research disciplines and seek to build on the tremendous depth of fundamental research and disciplinary expertise that underpin much of our discovery. Over the coming decade Macquarie University also aims to increase its emphasis on cross-disciplinary and applied research to ensure that our discoveries are translated into improvements for local, national and global communities.

This Strategic Research Framework, like Macquarie University itself, is bold and ambitious; the targets will stretch us and the expectations of our collaborating partners will be high. But by working together on relevant and significant local, national and global challenges, Macquarie will remain at the forefront of world-leading research and continue to have world-changing impact.

Professor Sakkie Pretorius
Deputy Vice-Chancellor (Research)

Macquarie University has articulated four key objectives to guide our research endeavours, each supported by a suite of goals, targets and supporting strategies. The four key objectives are designed to connect faculties, the University’s portfolios, our researchers and our research support staff with Macquarie’s research-intensive aspirations, ensuring we bring *World-Leading-Research; World-Changing Impact* to life throughout the University.

Key objectives and goals

KEY OBJECTIVE 1: ACCELERATE WORLD-LEADING RESEARCH PERFORMANCE

- 1.1 Top-performing staff: Increase the number and proportion of research-productive staff
- 1.2 World-leading research concentrations: Build on disciplinary areas of current and emerging research strength and enhance cross-disciplinary capability
- 1.3 Growing research investment: Accelerate growth of external research income to facilitate world-leading research
- 1.4 Pervasive best practice: Continuously improve policies, processes and systems that support the pursuit of excellence and integrity in research and scholarship
- 1.5 Leading-edge infrastructure: Secure world-leading research infrastructure, facilities and equipment


KEY OBJECTIVE 2: PREPARE WORLD-READY HIGHER DEGREE RESEARCH CANDIDATES

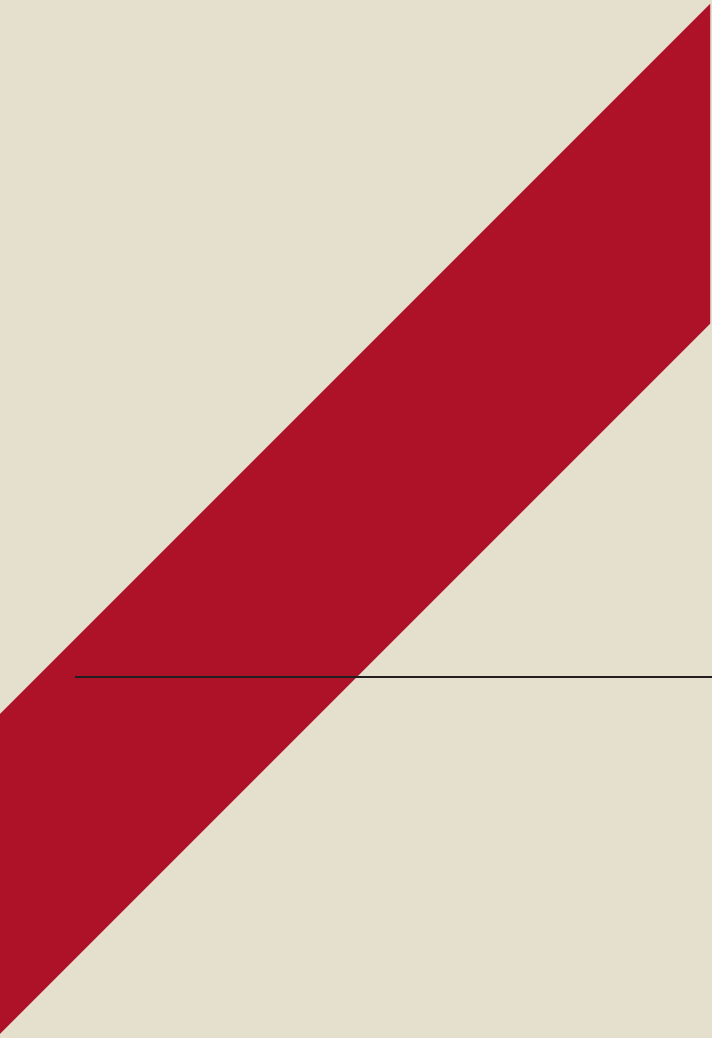
- 2.1 Attracting quality candidates: Attract high-potential higher degree research candidates
- 2.2 Inspirational supervision: Provide outstanding supervisory expertise and mentoring
- 2.3 Transformative research environment: Embed higher degree research candidates in areas of current and emerging strength
- 2.4 Real-world engagement: Provide opportunities for career-enhancing exposure to industry and the community
- 2.5 Global champions: Provide internationally-aligned degrees with global relevance
- 2.6 World-class support: Provide personally-enriching experiences and enabling facilities, policies and processes

KEY OBJECTIVE 3: ENGAGE AS A WORLD-RECOGNISED RESEARCH COLLABORATOR OF CHOICE

- 3.1 Strategic engagement: Pursue local, national and international partnerships to complement and enhance areas of current and emerging research strength
- 3.2 Deep and authentic collaborations: Build mutually beneficial, long-term engagement with institutional, national and international colleagues
- 3.3 Synergistic end user partnerships: Pursue shared goals with end users to maximise delivery of solutions and return on investment
- 3.4 Streamlined support: Practice efficient and effective facilitation of research collaborations

KEY OBJECTIVE 4: DELIVER RESEARCH WITH WORLD-CHANGING IMPACT

- 4.1 Discovery for innovation: Strengthen basic research capability to drive discovery and underpin innovation
 - 4.2 Cross-disciplinary inquiry: Optimise the opportunities for inquiry across disciplines and structures
 - 4.3 Diversity of impact: Foster an environment that facilitates and values diverse forms of knowledge creation, application, and creative practice to benefit society
 - 4.4 Challenge-focused research: Conduct research that addresses national and global challenges and delivers significant benefits
- 



Future-shaping research priorities

The challenges faced by the world today are complex and interrelated. They require bold thinking and the discovery and application of new knowledge if we are to develop the necessarily sophisticated and holistic solutions they require. It is at the point that disciplines intersect that innovation is often catalysed. Macquarie University has recognised this with the development of five future-shaping research priorities that seek to build upon the deep disciplinary strengths Macquarie is known for and draw them together to address many of the challenges facing the world today.

These five priorities are underpinned by our areas of current and emerging research strength, expressed as a suite of research themes. They provide a focal point for cross-disciplinary research that is aligned with the national research agenda and global challenges of significance, and further bolster the University's mission to undertake world-leading research with world-changing impact.

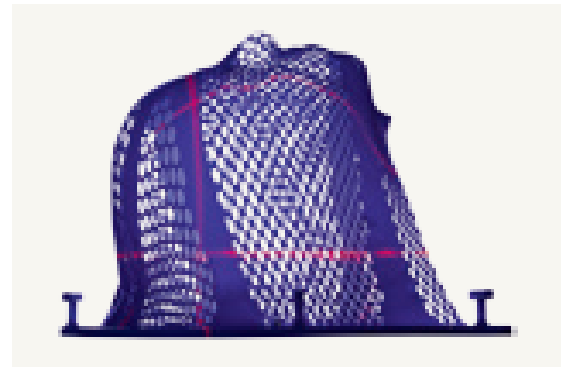




Future-shaping research priority 1: Healthy people

PIONEERING HEALTH, INTEGRATED HEALTHCARE AND LIFELONG LEARNING FOR WELLNESS IN OUR AGEING WORLD

- Pedagogies for health and lifelong learning
- Health and resilience
- Translational medical research
- Sensory and cognitive processing
- Hearing, language and literacy



Future-shaping research priority 2: Resilient societies

UNDERSTANDING CULTURES IN OUR
CHANGING WORLD AND BUILDING ETHICAL,
JUST AND INCLUSIVE COMMUNITIES

- Societal transformation
- Modes of communication
- Ethics, governance
and justice





	BID	OFFER	LAST	VOL
T.	-	-	1.76	0
R.2	0.07	0.075	0.08	6T
PET	2.81	2.85	2.81	0
ANK	0.75	0.77	0.77	85T
	9.58	9.60	9.60	7HT
	0.06	0.07	0.06	45T
	0.26	0.30	0.27	3T
	0.07	0.075	0.07	2HT
RM	2.75	3.00	2.75	10T
E	0.26	0.27	0.26	0
	13.24	14.50	13.24	0
	0.12	0.13	0.12	24T
	1.14	1.24	1.14	0
	0.39	0.40	0.40	2HT
	0.24	0.25	0.25	50T
	0.00		10	0
0.			11T	
			10T	
			0	
			4T	

STOCK	BID	OFFER	LAST	VOL
DEFENDER	0.34	0.35	0.35	54T
DEFIANCE	2.00	2.20	2.29	0
DELFIN	5.50	5.61	5.61	10T
DELTA	3.42	3.45	3.45	2HT
DELTA CORP	0.39	0.45	0.39	0
DENEHURST	0.47	0.48	0.45	27T
DESANE	0.15	0.26	0.15	0
DETA FELT	-	-	0.005	0
DEV. CAP.	0.85	0.90	0.90	0
DEVEX	0.55	0.57	0.57	74T
DEVON	0.025	0.10	0.025	0
DGY	10.80	11.00	10.80	15T
DI UNITED	1.06	1.07	1.07	21T
DIORO. EXP	0.21	0.23	0.21	55T
DISCOVERY	0.66	0.67	0.67	3HT
DIVER RES.	0.19	0.20	0.20	2HT
DIVERS IND	0.08	0.09	0.09	0
DOCHLYN	0.12	0.13	0.13	7HT
DOLSWEETS	0.38	0.39	0.39	20T
DOMES RES.	0.43	0.45	0.43	86T


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Future-shaping research priority 3: Prosperous economies

STRENGTHENING ECONOMIC PRODUCTIVITY TO
PROMOTE PROSPERITY IN OUR DIVERSE WORLD

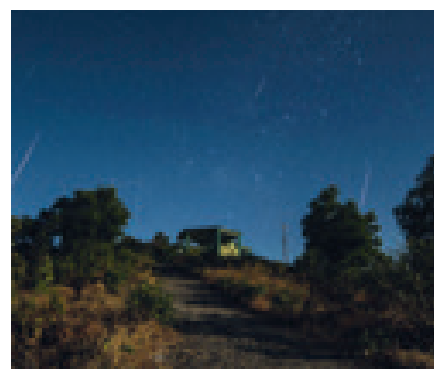
- Role, operation and risks in global financial and economic systems
- Organisational sustainability, productivity and competitiveness



Future-shaping research priority 4: Secure planet

SUSTAINING OUR INTERDEPENDENT WORLD
AND EXPLORING OUR PLACE IN THE UNIVERSE

- Living in a changing environment
- Exploring planet Earth and beyond



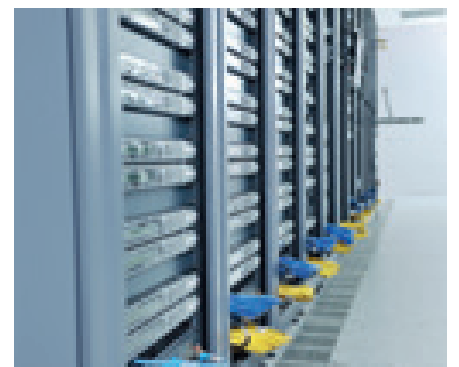




Future-shaping research priority 5: Innovative technologies

ADVANCING OUR INTERCONNECTED WORLD
WITH FRONTIER TECHNOLOGIES, SYSTEMS,
DESIGNS AND CREATIVE PRACTICE

- Science and engineering technologies for the 21st century
- Big Data: Acquisition, analysis, application and assurance



2024 Research targets

By 2024, 95 per cent of Macquarie University's research will be rated at world-standard or above and we will have achieved a place in the top one per cent of Universities world-wide.

ANNUALLY MACQUARIE UNIVERSITY WILL ACHIEVE:

>800
COMPLETING
HIGHER DEGREE
RESEARCH
CANDIDATES

>\$150,000,000
IN EXTERNAL
RESEARCH
INCOME

>5000
RESEARCH
PUBLICATIONS



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