Director, Australian Astronomical Optics – Macquarie

A WORLD-CLASS CAREER
Scientific research and discovery have been an integral part of the science and engineering story at Macquarie University since our beginnings. Our first 50 years have seen us participate in the world’s first-ever attempt to synthesise complex life, turn wi-fi into a reality, discover dancing dwarf galaxies and set the groundwork for the development of blue LED light – the future key ingredient in everything from your smartphone to the lights in your home.

Scientific discovery – be it during our studies or working in industry or at a university – comes from a deep understanding of the fundamentals as well as from being creative. We believe that the creativity and hard work of our staff is the key to our success in science and engineering. Our academics are at the cutting edge of their field and highly active in research and development. They are also accomplished and dedicated teachers.

We have a strong and ambitious strategy and plan for the next five years. We’re investing heavily in new buildings, courses and staff, and collaborating with businesses here and around the world, including Cochlear Ltd, Optus and Johnson & Johnson.

Australian Astronomical Optics – Macquarie (AAO–Macquarie) joined the University on 1 July 2018 as a new Department focused on the development and application of optical and infra-red astronomical instrumentation. This large new team doubles our effort in astronomy and is an exciting part of our future growth and development in research, as well as in innovation and industry partnerships.

This is an extraordinary opportunity to set the strategy and direction of this significant new Department at a unique moment for optical astronomy in Australia. The Director will play the central role in defining and executing the Department’s strategy, attracting top experts, and establishing AAO-Macquarie as a destination of choice for high ability passionate research students.

We offer you the opportunity to bring your outstanding academic leadership skills to enable the group and its staff to realise their full potential and deliver excellence across the full portfolio of academic activity.

We look forward to welcoming you.

Professor Barbara Messerle

EXECUTIVE DEAN

FACULTY OF SCIENCE AND ENGINEERING
The creation of AAO–Macquarie

On 1 July 2018, Macquarie became the new home for the instrumentation, astronomy and data-science teams of the former Australian Astronomical Observatory. Over decades, this Sydney-based group has established an enviable international reputation for its precision engineering capability and expertise within astronomical instrumentation across optical, mechanical, electronic and software domains.

AAO–Macquarie comes to the University with a new vision and an exciting agenda for transformation in scale and impact. As part of its expansive new vision, AAO–Macquarie’s team of experts will build on the University’s existing strengths in astronomy, photonics, laser technology, microfabrication, applied optics, sensing, and communications. We seek to increase industry engagement, identify opportunities to apply AAO–Macquarie’s expertise to medicine and defence, and expand its presence in the fields of optics and sensing, in addition to growing the ongoing core mission of world-leading excellence in astronomical instrumentation.

Macquarie is also excited to take a significant role in growing Australia’s global position in astronomical instrumentation, partnering with the Australian National University, the University of Sydney and Astronomy Australia Ltd, to establish a new national capability for astronomical instrumentation under the banner Australian Astronomical Optics (AAO). This collaboration will combine unique capabilities in wide-field and adaptive optics, precision mechanical and optical engineering, design and testing, and software to build cutting-edge instruments for the world’s leading eight-metre telescope and next generation 30-metre telescope.

The AAO–Macquarie group has a long-standing commitment to advancing equity and diversity principles, a commitment Macquarie University shares deeply. We hold silver status in the Pleiades Awards – Australia’s scheme for certifying commitment and progress in equity, diversity and inclusion in astronomy and physics – and are committed to continual improvement and promotion of these principles.
Who we are looking for

In this new role, which carries the status of Head of Department, the Director of AAO–Macquarie will take the central role in creating and sustaining a holistic vision for the group across the programs in astronomical instrumentation, astronomy research and data science. The Director will lead the development of strategy and set the directions for discovery, industry engagement and future directions for business development.

We are looking for an outstanding individual with experience in growing, developing and leading high-performance teams to build on the considerable skills and knowledge of the technical experts and academics within AAO–Macquarie. The Director will work to nurture, embed and uphold a culture of excellence and outstanding service in AAO–Macquarie’s exciting mission to produce highly specialised and innovative technological systems. The Director will also drive strategies to develop a new focus on industry engagement and introduce innovative research-focused teaching programs at graduate and, potentially, undergraduate levels.

To be successful in this role, you will have proven academic leadership in your discipline and be known as an eminent authority in your field. You will be a committed enabler of multidisciplinary collaborations, playing an active role in collaborating with researchers across the discipline, faculty and wider academic community. You will have demonstrated the ability to lead and uplift large technical teams.

Your proven track record of developing trust, building commitment, modelling core university values and fostering an environment of innovation and excellence will enable you to succeed in this role.
This prominent position is key to the delivery of the faculty’s strategic priorities. Its accountabilities extend across strategy and leadership, academic performance, industry engagement and group operations.

Key responsibilities

**STRATEGY AND LEADERSHIP**
- In consultation with the Executive Dean, develop a strategic plan for AAO–Macquarie, aligned to faculty and Macquarie strategy, and engage staff within AAO–Macquarie to achieve that plan.
- Contribute to the high-level operation and strategic planning of the Faculty of Science and Engineering as a member of its leadership team.
- Initiate and drive business development and funding initiatives and opportunities, building AAO–Macquarie’s capability to engage with industry, grow collaborations and secure funding.
- Lead and mentor staff to achieve potential and sustain high performance through:
  - establishing, promoting and maintaining a collegial, collaborative and productive culture within the group
  - supporting staff in achieving their research, teaching and service objectives, and addressing any potential barriers to high performance
  - attracting and retaining high performing staff to deliver the vision and strategy of AAO–Macquarie
  - providing strong and visible leadership in advancing gender equity and other aspects of diversity and inclusion within the department.

**ACADEMIC PERFORMANCE**
- Drive the overall academic performance of AAO–Macquarie in meeting the University’s objectives, through:
  - enhancing the research profile of the group in alignment with the Strategic Research Framework 2015–2024 World-Leading Research; World-Changing Impact
  - fostering a culture of transformative learning, innovation and excellence in teaching aligned to the objectives of the Learning and Teaching Strategic Framework 2015–2020
  - representing the group and faculty within the Macquarie community at meetings, forums and seminars, and identifying internal collaborative opportunities
  - developing and managing collaborative local, national and international partnerships aimed at expanding commercial opportunities and raising the profile of AAO–Macquarie
  - conducting a distinctive personal research program in the context of the AAO–Macquarie’s instrumentation and science program, including the supervision of higher degree research students.

**OPERATIONAL**
- Oversee the effective administration of AAO–Macquarie’s budgets and resources including optimising the allocation of resources, operating within budget and meeting relevant legislative and compliance obligations.
- Oversee quality assurance and health and safety, ensuring AAO–Macquarie meets University, legislative and compliance obligations.

**REPORTING TO**
Executive Dean, Faculty of Science and Engineering

**DIRECT REPORTS**
- Professor of Optical Instrumentation
- Professor of Astronomy
- Head, Research Data and Software
- Operations Manager

**LOCATION**
AAO–Macquarie offices
105 Delhi Road
North Ryde NSW 2109
Sydney, Australia

Relocation to Macquarie’s North Ryde campus is anticipated in 2022.
The Faculty of Science and Engineering is one of Macquarie's strongest research faculties, excelling in all research indicators – publications, internal and external competitive research grants, research contracts, Australian Research Council (ARC) fellowships, distinguished visitors and postgraduate student numbers.

Where you will work

The faculty has an international reputation for research excellence. Our strength lies in the multidisciplinary approach taken by our researchers, who enjoy strong links with partners from different departments and research centres within the University, as well as with research partners from prominent national and international research institutes and universities. We sustain a broad range of research activities and acknowledge that research excellence is a key component to delivering high-standard undergraduate and postgraduate courses, which we offer across a diverse range of disciplines. Therefore, we encourage and support research activities that enhance our educational mission.

We are home to a number of world-class research centres and continue to build partnerships with industry and with commercial, government, cultural and professional organisations. The Faculty of Science and Engineering comprises:

- AAO–Macquarie
- Department of Biological Sciences
- Department of Chiropractic
- Department of Computing
- Department of Earth and Planetary Sciences
- Department of Environmental Sciences
- Department of Mathematics and Statistics
- Department of Molecular Sciences
- Department of Physics and Astronomy and School of Engineering

AAO–Macquarie comprises four teams that report to the Director.

- **Optical instrumentation** is the largest group with about 30 staff – technical and engineering specialists in the areas of electronics, mechanics, optics, project management and instrumentation science.
- **Astronomy** consists of research astronomers who also provide research and astronomy support for instrumentation projects and contribute to learning and teaching activities.
- **AAO Research Data and Software** consists of a Data team providing specialist research data and e-research support, a Software team and a Systems Administration and ITC team.
- **Operations** consists of the Operations Manager and administrative support, which provides operational and administrative support.
Our purpose, vision and values

At Macquarie, we’re not afraid to choose the less trodden path. We see life as an exhilarating source of possibilities to grow intellectually and professionally, unconstrained by traditions. We are ready to embrace new experiences and ideas. We believe that a leader is about being a team player, and know that success in today’s world is all about collaborating with the right people on the right issues. We are naturally curious and open to the most diverse intellectual perspectives. United by a sense of purpose, a single vision and one set of values, we actively engage in the complex issues that define the future of humanity.

UNITED BY ONE PURPOSE
We are a university of service and engagement:
• we serve and engage our students and staff through transformative learning and life experiences.
• we serve and engage our world through discovery, dissemination of knowledge and ideas, innovation and deep partnerships.
• our University is a place for staff and students to be nurtured, to grow, to develop, to learn and to explore.
• we also encourage our people to break free – literally and metaphorically.

SHARING ONE VISION
We aspire to be:
• a destination of choice for students and staff who share our values.
• deeply connected with our stakeholders and partners, and known for this globally.
• ranked among the highest performing research universities in Australia and, for key disciplines, to be recognised globally for our pre-eminence.
• known across Australia and beyond as custodians of a remarkable university campus that blends the vibrancy of a cosmopolitan university village with a natural Australian bushland setting.

EMBODYING ONE SET OF VALUES
We value:
• Scholarship – We believe learning, inquiry and discovery improve lives.
• Integrity – We conduct ourselves ethically, equitably and for mutual benefit.
• Empowerment – We make our community a source of strength and creativity.

Through our actions as students and staff, we live these values, and it is against them that we hold ourselves accountable.
The exponential power of our collective

SUCCESS THROUGH COLLABORATION
Macquarie is a university engaged with the real and often complex problems and opportunities that define our lives.

Since our foundation 54 years ago, we have aspired to be a different type of university: one unbound by ivory towers and sandstone walls. Rather, we are focused on fostering collaboration between students, academics, industry and society, encouraging all to traverse the boundaries of their own perspective and affect change.

Over the years, we’ve grown to become the centre of a vibrant local and global community. A place of constant stimulus and human interaction. Together, we advance world-class theoretical thinking and translate it into real-world solutions.

We’re connecting people across the most diverse fields of knowledge to create bold new possibilities: for their careers, intellectual endeavours, enterprises and the common good.

At Macquarie, people become skilled at switching between specialist and generalist mindsets; mastering complexity, thinking holistically and helping to create a better future.

WHERE COLLABORATION MEETS INNOVATION
Uniquely located in the heart of Australia’s largest high-tech precinct, Macquarie brings together more than 40,000 students and 3,000 staff in one thriving hub of discovery.

Our campus spans 126 hectares, with open green space that gives our community the freedom to think and grow.

More than AU$1 billion has been invested in our facilities and infrastructure so our students and staff can thrive on a campus that is dynamic, sustainable and built for collaboration.

With more than 300 leading companies located on or around the Macquarie campus, our students are able to tap into industry connections that give them an edge in their future careers, while our staff have access to outstanding research and innovation opportunities with some of the world’s leading organisations.

PURSUITING EXCELLENCE
Macquarie is ranked among the top two per cent of universities in the world, and with a 5-star QS rating, we are recognised for producing graduates who are among the most sought after professionals in the world.

Testament to our spirit of innovation and exploration, 10 of our subjects are ranked among the top 100 in the world, and five are ranked among the top 150.

A PROUD TRADITION OF DISCOVERY
Macquarie enjoys an enviable reputation for research excellence – 100 per cent of our research is ranked at world standard or above and more than 30 of our researchers are ranked in the top one per cent of researchers in the world.

Our research framework – World-leading research with world-changing impact – is brought to life by renowned researchers, whose audacious solutions to issues of global significance benefit the world we live in.

Looking to the future, we have developed five research priorities – healthy people, resilient societies, prosperous economies, secure planet and innovative technologies – that provide a focal point for the cross-disciplinary research approach that is at the heart of our ethos.
Macquarie at a glance

5 QS Stars
in teaching, employability, research, internationalisation, facilities, innovation, inclusiveness and specialist criteria

More than 30,000
students have benefited from work placements or community experiences through PACE (Professional and Community Engagement)

More than 300
companies on campus or in the adjacent high-tech precinct, providing access to internship and job opportunities

Ranked in the top 2 per cent
of universities in the world

Almost 10,000
degrees awarded annually

Only university in Australia
with a hospital on campus

More than 181,000
alumni in over 140 countries

More than 40,000
students from more than 120 countries

100 per cent
of research activity rated at world standard or above at the two-digit level

$1 billion
invested in infrastructure and facilities in recent years

More than 150
partner universities for student exchange in over 40 countries

15 kilometres
from the Sydney CBD
To be considered for this position, you must demonstrate the following selection criteria in a Curriculum Vitae and supporting document (of no more than four pages), providing examples of relevant experience and achievements.

**Selection criteria**

- Completed a PhD in a suitable discipline, with outstanding contributions to scholarship and research in astronomy, astronomical instrumentation or optical engineering, which have resulted in a strong research impact in your field and recognition as an eminent authority in your discipline.
- Proven holistic strategic thinking with the demonstrated aptitude to develop and set the new direction for AAO–Macquarie in consultation with faculty leadership.
- Demonstrated capability to build and develop a comprehensive industry engagement and business development plan.
- Demonstrated track record of building a sustained culture of high performance and service excellence in a group or department of substantial size.
- Proven track record of driving a culture of research within a group or department, including enabling multidisciplinary collaborations within a department, faculty, university and/or the wider community.
- Demonstrated capability to develop an innovative research-focused teaching program and to attract quality students.
- Demonstrated ability to engage in external collaborative partnerships.
- Demonstrated ability to attract significant external funding for research and/or contract services.
- Demonstrated strong capability to manage financial, human and physical resources to deliver successful outcomes.
- Demonstrated track record of building trust, nurturing, supporting, mentoring and ensuring the professional development of academic and professional staff.
- Demonstrated commitment to promoting and advancing the principles of equity, inclusion and diversity in STEMM workplaces.
How you can apply

FOR A CONFIDENTIAL DISCUSSION ABOUT THIS ROLE, CONTACT:
Professor Michael Steel
INTERIM AAO DIRECTOR AND HEAD OF DEPARTMENT, DEPARTMENT OF PHYSICS AND ASTRONOMY
E: michael.steel@mq.edu.au
T: + 61 434 631 757

OR

Roberta Palfreeman
HR CLIENT MANAGER
E: roberta.palfreeman@mq.edu.au
T: +61 (2) 9850 9730

Closing date for applications:
Thursday 13 September 2018

TO APPLY FOR THIS POSITION, SUBMIT THE FOLLOWING INFORMATION WITH YOUR APPLICATION VIA THE ONLINE RECRUITMENT SYSTEM AT JOBS.MQ.EDU.AU:

CURRICULUM VITAE
Candidates are asked to set out in a curriculum vitae their most recent and significant career appointments.

SELECTION CRITERIA
In no more than four pages, respond to the selection criteria on page 11 providing examples of relevant experience and achievements.

REMUNERATION
Provide an indication of your current remuneration package.

REFEREES
Provide the names, contact details and present positions of four referees. Referees need not be alerted in advance, as they will not be contacted without the prior approval of the applicant.

DATE OF COMMENCEMENT
Indicate your availability to commence at Macquarie.

PHOTOS: Anthony Horton, Chris Stacey and Joanne Stephan