



POSITION DESCRIPTION

School of Physics
Faculty of Science

Lecturer, Theoretical Condensed Matter Physics

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| POSITION NO | 0040591 |
| CLASSIFICATION | Lecturer, Level B |
| SALARY | \$95,434- \$113,323 p.a. |
| SUPERANNUATION | Employer contribution of 17% |
| EMPLOYMENT TYPE | Full-time (continuing) position available |
| OTHER BENEFITS | http://about.unimelb.edu.au/careers/working/benefits |
| CURRENT OCCUPANT | New |
| HOW TO APPLY | Online applications are preferred. Go to http://about.unimelb.edu.au/careers , under 'Job Search and Job Alerts', select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number. |
| CONTACT FOR ENQUIRIES ONLY | Associate Professor Harry Quiney Tel +61 3 8344 0144 Email quiney@unimelb.edu.au <i>Please do not send your application to this contact</i> |

For information about working for the University of Melbourne, visit our websites:

about.unimelb.edu.au/careers
joining.unimelb.edu.au

Position Summary

The School of Physics seeks to appoint an outstanding academic to undertake high-level research of exceptional promise in Theoretical Condensed Matter Physics. The appointee is expected to attract postgraduate students, engage collaborative links within the School as well as externally, and secure competitive research funding in line with the strategic direction of the School. The Lecturer will have a core commitment to teaching within the School's undergraduate and MSc programs, and supervise research students at undergraduate, MSc and MPhil/PhD levels.

1. Selection Criteria

1.1 ESSENTIAL

- ▶ A PhD or equivalent in theoretical condensed matter physics
- ▶ An excellent record of research productivity and publication, relative to career opportunity, in area of theoretical condensed matter physics
- ▶ A demonstrated ability to teach and inspire learning of physics at all levels and, in particular, to large groups of undergraduate students
- ▶ The ability to develop and teach condensed matter physics at graduate level
- ▶ Evidence of the ability or potential to attract research funding from competitive research bodies and other sources, including industry
- ▶ Clear potential in graduate student supervision
- ▶ Evidence of the ability to interact well with staff and to contribute to the administration of the School
- ▶ Excellent communication skills in English, both written and oral

1.2 DESIRABLE

- ▶ Experience of collaborative, interdisciplinary research
- ▶ Research interests that could provide synergies with and broaden the research activities of the theoretical condensed matter physics group

2. Special Requirements

- ▶ None

3. Key Responsibilities

Minimum Standards of Performance for Level B is outlined in [Schedule B – Minimum Standards for Academic Levels](#)

3.1 RESEARCH

- ▶ Conduct research and contribute to knowledge through scholarship, refereed publication and presentation
- ▶ Actively seek external research grant income to support that research
- ▶ Active participation in research seminars and conferences
- ▶ Active supervision of undergraduate, MSc and MPhil/PhD levels

3.2 TEACHING

- ▶ Prepare and deliver lectures, tutorials, and practical classes at undergraduate and postgraduate level
- ▶ Being proactive in the development of subject materials and delivery, including the use of web resources as appropriate
- ▶ Supervise the study program of postgraduate students engaged in coursework
- ▶ Acting as Subject Coordinator
- ▶ Provide academic mentoring and assistance to students
- ▶ Perform marking and assessment duties

3.3 SERVICES TO THE SCHOOL

- ▶ Contribute to a range of administrative functions, including those connected with teaching responsibilities and the conduct of the academic affairs of the School
- ▶ Participate in School and/or Faculty meetings and/or the committees that have responsibility for the academic affairs of the School
- ▶ Involvement in professional activity in the discipline
- ▶ Actively contribute to School activities such as Open day to promote student engagement
- ▶ Actively participate in the University Performance Development Framework
- ▶ Comply with occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5

3.4 ENGAGEMENT

- ▶ Present research to the public to elevate public awareness of educational and scientific developments, and promote critical enquiry and public debate within the community
- ▶ Participation in outreach activities to ensure school students exposure to broader perspectives, values, and opportunities

- ▶ Exchange of knowledge between partners in a mutually beneficial way that expands the capacities of all concerned

4. Other Information

4.1 SCHOOL OF PHYSICS

<http://physics.unimelb.edu.au/>

The University of Melbourne's School of Physics is one of Australia's leading Physics Schools. It has achieved this status through the high quality of its research and teaching programs. The School offers a wide range of physics subjects to undergraduate and postgraduate students. It is located in the David Caro building on the Swanston Street boundary of the University campus. The Head of School and the majority of the Professional staff are housed on the ground floor of the building to act as the first point of contact for students, staff and visitors. Currently some 25 academics, 23 teaching & research staff, 65 research-only staff, more than 95 postgraduate students and 72 associates supported by 32 professional staff make up the School. The School additionally hosts 2 ARC Laureate Fellow, 1 Thomas Baker Chair, 1 RAMAP Fellow, 1 ARC Professorial Fellow, 3 ARC Future Fellows, 1 McKenzie Fellow and 6 ARC Discovery Early Career Researcher. Skilled technical staff operate, maintain and develop complex instrumentation and equipment to support the teaching and research activities of the School.

The School currently performs research in the following areas: Astrophysics, Atomic, Molecular and Optical Physics, Experimental Condensed Matter Physics, Experimental Particle Physics, Material Science, Physical Biosciences, Theoretical Condensed Matter Physics and Theoretical Particle Physics.

The School of Physics hosts the ARC Centre of Excellence in Particle Physics at the Terascale and the Melbourne nodes of the ARC Centre of Excellence for Quantum Computation and Communication Technology, the ARC Centre of Excellence for Advanced Molecular Imaging and the ARC Centre of Excellence for All-Sky Astrophysics. The School also plays a major role in the Australian Synchrotron research program.

4.2 FACULTY OF SCIENCE

<http://www.science.unimelb.edu.au>

Science at the University of Melbourne is the most highly ranked Faculty of Science in Australia.* Science is defined by its research excellence in the physical and life sciences and is at the forefront of research addressing major societal issues from climate change to disease. Our discoveries help build an understanding of the world around us.

We have over 150 years of experience in pioneering scientific thinking and analysis, leading to outstanding teaching and learning and offer a curriculum based on highly relevant research, which empowers our STEM students and graduates to understand and address complexities that impact real world issues and the challenges of tomorrow.

We aspire to engage the broader community with the impact that Science has on our everyday lives. Through the strength of our internships and research project offerings, our students are provided opportunities to engage with industry partners to solve real-world issues.

The Faculty of Science has over 40,000 alumni and is one of the largest faculties in the University comprising seven schools: BioSciences, Chemistry, Earth Sciences, Ecosystem and Forest Sciences, Geography, Mathematics and Statistics, and Physics.

The Faculty is custodian of the Bio21 Molecular Science and Biotechnology Institute, Office for Environmental Programs and home to numerous Centres.

Science manages more than \$280 million of income per annum, with a staff base in the order of 220 professional staff, and more than 540 academic staff.

We offer a range of undergraduate, honours, graduate and research degrees; enrolling over 7,500 undergraduate and graduate students. The Faculty of Science is the custodial Faculty for the BSc (Bachelor of Science) with enrolments of approximately 6,200 students.

The Faculty of Science is a leader in research, contributing approximately \$50 million in HERDC income per annum. The Faculty of Science is highly research focused, performing strongly in the ARC competitive grants schemes, often out-performing the national average. The Faculty of Science is currently growing its competitiveness and standing in the NHMRC space.

The Faculty of Science provides community services and industry partnerships based on a solid foundation of research in the pure and applied sciences. The Faculty has an endowment of approximately \$50 million. The annual income from the endowment supports more than 120 prizes, scholarships and research awards.

* Figures from the latest available data for 2015, including published international rankings data.

4.3 THE UNIVERSITY OF MELBOURNE

The University of Melbourne is a leading international university with a tradition of excellence in teaching and research. With outstanding performance in international rankings, Melbourne is at the forefront of higher education in the Asia-Pacific region and the world. The University of Melbourne is consistently ranked among the world's top universities. Further information about our reputation and global ranking is available at <http://futurestudents.unimelb.edu.au/explore/why-choose-melbourne/reputation-rankings>.

Established in 1853, shortly after the founding of Melbourne, the University is located just a few minutes from the centre of this global city. The main Parkville campus is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide range of knowledge-based industries.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded. Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>.

4.4 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

- ▶ Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. <http://about.unimelb.edu.au/strategy-and-leadership>

- ▶ The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree, research higher degree or entry directly into employment. The emphasis on academic breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.
- ▶ The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs. <http://research.unimelb.edu.au/index.html#home>

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.

Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.

Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of *Research at Melbourne: Ensuring Excellence and Impact to 2025*.

4.5 EQUITY AND DIVERSITY

Another key priority for the University is access and equity. The University of Melbourne is strongly committed to an admissions policy that takes the best students, regardless of financial and other disadvantage. An Access, Equity and Diversity Policy Statement, included in the University Plan, reflects this priority.

The University is committed to equal opportunity in education, employment and welfare for staff and students. Students are selected on merit and staff are selected and promoted on merit.

4.6 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <http://www.unimelb.edu.au/unisec/governance.html>.

5. *Occupational Health and Safety (OHS)*

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<http://safety.unimelb.edu.au/topics/responsibilities/>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.