

## POSITION DESCRIPTION

School of Mathematics and Statistics  
Faculty of Science

### Research Fellow in Mathematical Physics

POSITION NO	0049490
CLASSIFICATION	Level A
SALARY	\$72,083 - \$97,812 p.a. (PhD entry level \$91,125)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed-Term for 2 years
OTHER BENEFITS	<a href="http://about.unimelb.edu.au/careers/working/benefits">http://about.unimelb.edu.au/careers/working/benefits</a>
HOW TO APPLY	Online applications are essential. Go to <a href="https://www.mathjobs.org/jobs">https://www.mathjobs.org/jobs</a> , Login or Create a New Account, then find the position by title.
CONTACT FOR ENQUIRIES ONLY	Professor Jan de Gier Tel +61 3 8344 7887 Email <a href="mailto:jdgier@unimelb.edu.au">jd gier@unimelb.edu.au</a>  <i>Please do not send your application to this contact</i>

For information about working for the University of Melbourne, visit our website:  
[about.unimelb.edu.au/careers](http://about.unimelb.edu.au/careers)

## ***Position Summary***

The Research Fellow in Mathematical Physics is expected to undertake high level research on themes related to the ARC Discovery Project DP190102897 “Matrix product multi-variable polynomials from quantum algebras”, in collaboration with Prof Jan de Gier, A/Prof Paul Zinn-Justin and Drs Alexandr Garbali and Michael Wheeler.

This position aims to expand the theory of multivariate polynomials and develop generalised polynomial families using connections to affine and toroidal algebras.

### ***1. Key Responsibilities***

#### **1.1 RESEARCH AND RESEARCH TRAINING**

You are expected to significantly contribute towards the research effort of the School and to develop your research with an increasing degree of autonomy, and,

- Conduct research and contribute to knowledge through scholarship, refereed publications and presentations.
- Apply and be successful in obtaining external research grant income to support that research.
- Participate and contribute to organisation of research seminars and conferences. Contribute to supervision of postgraduate students, both MSc and PhD.

#### **1.2 LEADERSHIP AND SERVICE**

- Participate in School and/or Faculty meetings and/or the committees at the request of your supervisor or the Head of School.
- Be involved in professional activity in the discipline, such as the organisation of workshop and research events.
- Effective demonstration and promotion of University values including diversity and inclusion and high standards of ethics and integrity
- Contribute to School activities such as Open Day.

#### **1.3 ENGAGEMENT**

- Present research to the public to increase public awareness of educational and scientific developments.
- Participate in outreach activities.

#### **1.4 OTHER DUTIES**

- Perform other tasks as requested by the supervisor or the Head of School.
- Participate in the University Professional Development Framework.
- Ensure an up-to-date record of University compliance courses, such as, but not limited to, Appropriate Workplace Behaviour, PDF for Staff and Supervisors, OH&S training courses.
- Comply with occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 4.

## ***2. Selection Criteria***

### **2.1 ESSENTIAL**

- ▶ A PhD in the mathematical sciences, theoretical physics or equivalent.
- ▶ Demonstrated research excellence in relation to career stage as evidenced by strong publications, preprints, reference letters, and impact in the mathematical sciences community.
- ▶ Clear potential to develop national and international research collaborations, and the ability to attract funding through grant applications.
- ▶ The ability to interact well with other academic staff and to contribute to a large School.
- ▶ Clear potential in graduate student supervision.
- ▶ Excellent interpersonal and both written and oral communication skills in English.

### **2.2 DESIRABLE**

- ▶ Demonstrated ability to attract external funding through grant applications and/or support in funded joint projects with others internal or external to the university.
- ▶ Experience in assisting with supervision of students undertaking undergraduate or higher degree research projects.

## ***3. Equal Opportunity, Diversity and Inclusion***

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy 2015-2020 and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Growing Esteem.

## ***4. 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.

## **5. Other Information**

### **5.1 SCHOOL OF MATHEMATICS AND STATISTICS**

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

The University of Melbourne's School of Mathematics and Statistics is one of Australia's leading mathematics and statistics schools. It has achieved this status through the high quality of its research and teaching programs. The School offers a wide range of subjects to undergraduate and postgraduate students and is involved in aspects of community life that impact on the interests of the School and the discipline.

The School of Mathematics and Statistics has a total of 70 continuing teaching and/or research staff; 53 research only staff and consultants; 16 academic specialists and 15 support staff. The School has over 120 casual and honorary staff. In 2018, there were 93 Research Higher Degree and 245 Coursework Master of Science students. Two members of the School staff and four Emeritus Professors are Fellows of the Academy of Science.

Infrastructure support for research and basic information technology facilities are provided to all members of the department. Special facilities such as high-end workstations and salaries for research fellows are supported through individual competitive external research grants. Members of the School have had considerable success at attracting support from the Australian Research Council. The school currently hosts two ARC Centre's of Excellence, and has hosted three ARC Laureate Fellows, nine ARC Future Fellows and twelve DECRA Fellows.

It is one of the objectives of the University to develop and maintain a strong international profile. In this context, members of the School have strong collaborative links with colleagues in the United States of States of America, most countries in Europe and the Asia-Pacific region.

### **5.2 FACULTY OF SCIENCE**

<https://science.unimelb.edu.au>

Science at the University of Melbourne is among the most highly ranked Faculties 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 53,000 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, Australian Mathematical Sciences Institute (AMSI) and home to numerous Centres.

Science manages more than \$315 million of income per annum, with a staff base in the order of 290 professional staff, and more than 630 academic staff.

We offer a range of undergraduate, honours, graduate and research degrees; enrolling over 9,700 undergraduate and 2,400 graduate students. The Faculty of Science is the custodial Faculty for the BSc (Bachelor of Science). The Faculty of Science is a leader in research, contributing approximately \$80 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.

*\*Based on 2018-19 subject rankings by QS and Time Higher Education*

### 5.3 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville 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. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

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>.

### 5.4 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.

## 5.5 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/governance>