Research Fellow

Department/Unit	School of Mathematical Sciences
Faculty/Division	Faculty of Science
Classification	Level A
Work location	Clayton
Date document created or updated	23 October 2017

Organisational context

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu

The **Faculty of Science** works through frontiers via our research, teaching and our partnerships with industry, government and individual supporters. Our five Schools offer a large and diverse range of disciplines in undergraduate and postgraduate courses. Ten Schools from other university faculties contribute to science teaching at all levels, allowing students to choose their studies from physical, biological, biomedical, behavioural, environmental, mathematical and computer sciences. In terms of research, our respected researchers are at the top of their game. Their work spans the theoretical to the applied, contributes to new knowledge and technologies, and challenges how we interact with the world. To learn more about the Faculty of Science, please visit our website: www.monash.edu/science/

The **School of Mathematical Sciences** is one of the largest of the six Schools in the Faculty, and has close working collaborations with other Schools/Departments such as Physics and Astronomy, Earth, Atmosphere, Environment, Computer Science; and other faculties such as Business and Economics, Arts, Medicine, IT and Engineering. The School has strong links with outside institutions such as CSIRO, the Defence Science and Technology Organisation, and the National Australia Bank and a large number of research institutes and universities around the world.

The School provides undergraduate teaching for students in the Faculties of Science, Engineering, Information Technology and Pharmacy and Pharmaceutical Sciences, as well as postgraduate training in its key areas of research. The School is multidisciplinary with very active groups in algebra and discrete mathematics, analysis and geometry, applied mathematics, fluid dynamics, statistics and stochastic processes, numerical analysis and scientific computing, operations research, mathematical biology.

Position purpose

A Level A research-only academic is expected to contribute towards the research effort of the university and to develop her/his research expertise through the pursuit of defined projects relevant to the particular field of research. The Research Fellow will undertake research related to enumeration and properties of large combinatorial structures.

Reporting Line: This position reports to Professor Nick Wormald and Dr Anita Liebenau.
Supervisory responsibilities: Not applicable
Financial delegation and/or budget responsibilities: Not applicable

Key responsibilities

A Level A research-only academic shall work with support, guidance and/or direction from staff classified at Level B and above and with an increasing degree of autonomy as the research academic gains in skill and experience.

Specific duties required of a Level A research-only academic may include:

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research

2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise

3. Limited administrative functions primarily connected with the area of research of the academic

4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff

5. Occasional contributions to teaching in relation to her/his research project(s)

6. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees

7. Advice within the field of the staff member's research to postgraduate students

Key selection criteria

Education/Qualifications

1. The incumbent should possess:
   - a PhD in discrete mathematics or a related discipline from a recognised university, or equivalent qualifications and research experience in the area; or
   - an equivalent combination of relevant experience and/or education/training

Knowledge and Skills

2. Ability to solve problems by using discretion, innovation and the exercise of high level diagnostic skills within areas of functional responsibility or professional expertise

3. Excellent written communication and verbal communication skills with proven ability to effectively analyse information and produce clear, succinct reports and documents which requires interaction with others

4. Planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines

5. Demonstrated well developed computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and specified University software programs, with the capability and willingness to learn new packages as appropriate

6. Programming skills in C/C++ or similar language and/or experience with Maple or Mathematica

7. Demonstrated record of publications in high-quality journals

Other job related information

- Travel (e.g. to other campuses of the University) may be required
- There may be peak periods of work during which the taking of leave may be restricted

Legal compliance

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.