RESEARCH FELLOW

DEPARTMENT/UNIT	School of Mathematics
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

At Monash, work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the challenges of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and diversity. When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our commitment to academic freedom, you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an inclusive workplace culture for our staff regardless of ethnicity or cultural background. We have also worked to improve gender equality for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – #ChangeIt with us.

The School of Mathematics is one of the largest of the five Schools in the Faculty, and has close working collaborations with other Schools/Departments such as Physics and Astronomy, Data Futures, and Earth, Atmosphere and Environment, and other faculties such as Business and Economics, Arts, Medicine, Information Technology 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 is multidisciplinary with very active groups in algebra and discrete mathematics, analysis and geometry, topology, applied mathematics, financial mathematics, fluid dynamics, statistics and stochastic processes, numerical analysis and scientific computing, PDEs, operations research, optimisation, machine learning, and mathematical biology. The School provides undergraduate teaching for students in the Faculties of Science, Engineering and Information Technology, as well as postgraduate training in its key areas of research. The School has approximately 60 Academic and Research staff, 150 Teaching Associates, 6 Professional staff, 60 PhD and 60 Masters Students.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The Research Fellow will work on a project concerning fractional edge decompositions of graphs. This will include working on well-studied open problems in the area, considering variants and special cases of these, and investigating other related problems. The project team is led by Daniel Horsley (Monash), Darryn Bryant and Barbara Maenhaut (University of Queensland), and Peter Dukes (University of Victoria).

Reporting Line: The position reports to an Associate Professor in the School of Mathematics

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

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 their 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
8. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:

- a doctoral qualification in Mathematics or a closely related field.

Knowledge and Skills

2. Strong background in edge decomposition of graphs, fractional structures in graphs, or closely related areas.
3. Demonstrated analytical and manuscript preparation skills; including a track record of refereed research publications
4. Ability to solve complex mathematical problems
5. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
6. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents
7. A demonstrated awareness of the principles of confidentiality, privacy and information handling
8. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
9. Demonstrated computer literacy with the capability and willingness to learn new software packages as appropriate

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted
- A current satisfactory Working With Children Check is required

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.