RESEARCH FELLOW IN COMBINATORICS

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

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 and opportunities to collaborate internationally. 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 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 the Zarankiewicz problem and its variants. This may include working on special cases of the Zarankiewicz problem itself, considering supersaturation variants of it, and

investigating connections between it and objects in finite geometry and combinatorial design theory. The research is supported by the Australian Research Council through a Discovery Project grant.

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. Occasional contributions to teaching program as determined by the requirements of the School

5. 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

6. Advice within the field of the staff member's research to postgraduate and honours students

7. 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 at least one of extremal graph theory, combinatorial design theory, or finite geometry

3. Demonstrated capacity for the preparation of refereed research publications, relative to career duration

4. Ability to give guidance to and work with honours or postgraduate students within the discipline

5. The ability to work both independently in a research environment and as part of an inter-disciplinary research team

6. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines

7. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents

8. A demonstrated awareness of the principles of confidentiality, privacy and information handling

9. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

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.