



Position description

Senior Lecturer in Astrophysics

Position number	50005388
Department/Unit	School of Mathematical Sciences
Faculty/Division	Faculty of Science
Classification (Salary rates)	Level C
Employment type	Full-time
Work location	Clayton campus
Date document created or updated	1 December 2012

Position purpose

The Senior Lecturer is expected to make contributions to the astrophysics and mathematics teaching effort of the University and to carry out activities to develop and maintain scholarly research and/or professional activities relevant to the Monash Centre for Astrophysics as well as the School of Mathematical Sciences.

- **Reporting line:** The position reports to the Head of School and the Director of MoCA
- **Supervisory responsibilities:** N/A
- **Financial delegation and/or budget responsibilities** N/A

Organisational context

Monash University is an energetic and dynamic university committed to quality education, outstanding research and international engagement. A member of Australia's Group of Eight research intensive universities, it seeks to improve the human condition and is committed to a sustainable future. Monash has six campuses in Victoria, a campus in Malaysia, a campus in South Africa, a centre in Prato, Italy, and numerous international partnerships and cooperative ventures.

Monash University has approximately 63,000 equivalent full-time students spread across its Australian and off-shore campuses, and approximately 7,200 full-time equivalent staff (academic and professional).

The **Faculty of Science**, based at Clayton and Gippsland, has a total enrolment of approximately 3,500 students. Six 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.

The **School of Mathematical Sciences** is located in the Faculty of Science and 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, principally algebra and discrete mathematics, analysis and geometry, astrophysics and general relativity, atmospheric science and geophysical fluid dynamics, computational mathematics, statistics and stochastic processes, operations research and mathematical biology. There are 36 academic staff in the School, 32 research staff and 3 administrative staff. The total undergraduate EFTSU for the School is currently more than 925 and the total postgraduate EFTSU is about 54.

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, Geosciences, Geography, 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 Bureau of Meteorology, 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, Applied Mathematics, Astrophysics and general relativity, Atmospheric science and geophysical fluid dynamics, Statistics and stochastic processes, Computational mathematics, Operations research, Mathematical biology. Much of the research in the School is conducted through the research centres, namely the Monash Centre for Astrophysics (MOCA), the Centre for Modelling of Stochastic Systems (CMSS), the Australian Research Council's Centre of Excellence for Climate System Science and the 3D ALIVE (Applied Laboratory for Immersive Visualisation Environment).

Key result areas and responsibility

The incumbent is expected to provide strong strategic support to the School of Mathematical Sciences by taking an active role in the Monash Centre for Astrophysics as well as the School. The majority of duties will be associated with the astrophysics teaching and research programs. Duties may include:

- The preparation and delivery of lectures and seminars
- The conduct of support classes, workshops
- Initiation and development of unit/subject material
- Acting as unit coordinator
- Supervision of the program of study of honours students or of postgraduate students engaged in course work
- Supervision of major honours or postgraduate research projects
- The conduct of research
- Involvement in professional activity
- Development of course material
- Marking and assessment
- Consultation with students; and
- A range of administrative functions, the majority of which are connected with the units/subjects in which the academic teaches

Key Selection Criteria

Essential

1. PhD or equivalent in astrophysics or a relevant discipline
2. Established record of outstanding research in the area of stellar physics, including nucleosynthesis, numerical stellar hydrodynamics or chemical evolution.
3. An established record of research publications
4. Experience in the supervision of postgraduate research students
5. Demonstrated ability to earn income through external research granting bodies
6. Ability to develop and deliver innovative and exciting teaching in astrophysics to students at all levels and backgrounds, and mathematics to students of junior levels
7. Demonstrated capacity to work constructively and collaboratively with colleagues in furthering the aims of the School
8. Demonstrated oral and written communication skills
9. Demonstrated capacity to represent the School and the discipline in their dealings with internal and external groups

Desirable

10. Experience in collaborative and multidisciplinary research with internal and external groups

Other job-related information

Travel to other campuses of the University may be required.

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
- Staff/Student Relationships