MONASH University

Position description

Assistant Lecturer

Department/Unit	School of Physics and Astronomy
Faculty/Division	Faculty of Science
Classification	Level A
Work location	Clayton
Date document created or updated	20 January 2017

Organisational context

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu

The Faculty of Science works at the frontiers of research, which informs our multifarious teaching programs. Partnerships with industry, government and individual supporters augments both our research and teaching programs. 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 leaders in their fields. 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 Physics and Astronomy is a new School located within the Faculty of Science. It was formed in 2015 as a result of merging the former School of Physics with astrophysicists from the School of Mathematical Sciences. The School aims to position itself as one of the top physics and astronomy research and teaching departments in Australia. In the past five years the School has gone through an exciting period of renewal – investing significantly in people and facilities. The School of Physics and Astronomy is committed to teaching and research of the highest quality in astronomy, astrophysics, experimental physics, and theoretical physics; it aims to produce graduates with a strong foundation in physics and astrophysics. We are recognised internationally for research in a number of fields of physics and astrophysics; however, we are focused on significantly strengthening our research base to achieve the status of a top ranked international department.

In the 2015 national audit of research excellence (ERA), the School achieved the maximum overall rating of 5 for Physical Sciences, including the maximum rating of 5 in each of our assessed fields of research (spanning astronomy and astrophysics, atomic and molecular physics, nuclear physics, particle physics, condensed matter physics and optics).

The School has research strengths in astronomy and astrophysics, ultracold atomic gases, X-ray optics and biomedical imaging, gravitational wave physics, electron microscopy and diffraction, condensed matter physics and high energy particle physics. Currently the School is actively involved in six research centres:

- The Monash Centre for Astrophysics (MoCA - http://moca.monash.edu)
- The ARC Centre of Excellence for Particle Physics at the Terascale (CoEPP) http://www.coepp.org.au/)
- The ARC Centre of Excellence for Future Low Energy Electronics Technologies (starting 2017)

- The ARC Centre of Excellence for Gravitational Wave Discovery (starting 2017)
- The Monash Centre for Electron Microscopy (MCEM - http://mcem.monash.edu.au)
- The Monash Centre for Atomically Thin Materials MCATM (https://www.monash.edu/atomically-thin-materials)

In addition, the School has over a dozen Australian Research Council funded programmes and is an active user of the Australian Synchrotron and the Melbourne Centre for Nanofabrication, which are located adjacent to the Clayton Campus of Monash University.

Modern laboratory facilities are a high priority in the School's Strategic Plan. In 2013 the School's research laboratories relocated to a new building - the $175M New Horizons Research Centre.

The School hosts the Monash Centre for Astrophysics, which is one of the most diverse astrophysics research groups in Australia. The School conducts research in gravitational-wave astronomy as part of the LIGO Scientific Collaboration and the Parkes and International Pulsar Timing Array Collaborations, both of which fall under the newly-formed ARC Centre of Excellence for Gravitational Wave Discovery (OzGRav) which will begin in 2017. Other major areas of research in the School include: active galaxies, astrophysical fluid dynamics and magnetohydrodynamics, galaxy evolution, first stars, the formation of stars, stellar evolution, stellar nucleosynthesis, nuclear astrophysics, chemical evolution, galactic archaeology, supernovae, supernova remnants, neutron stars, stellar transients, supermassive black holes, high energy astrophysics, gravitational wave astronomy, stellar and planetary dynamics, and exoplanets. The Australian astrophysics community is heavily involved in major observational and computational facilities, including the Advanced Laser Interferometer Gravitational-wave Observatory (aLIGO), the Australian Square Kilometre Array Pathfinder (ASKAP), the Giant Magellan Telescope, the Australian Astronomical Observatory, Skymapper, HERMES, NCI, and the Green II and gSTAR supercomputers. In addition the School conducts research into particle physics and cosmology through the ARC Centre of Excellence for Particle Physics at the Terascale (CoEPP). It is also member of the Joint Institute for Nuclear Astrophysics and has close collaborations with the Center for Nuclear Astrophysics at Shanghai Jiao Tong University.

[TD1]Further information about the position and the School of Physics and Astronomy is available at: http://www.physics.monash.edu.au/

Position purpose

The Level A academic role is to assist Unit Coordinators in the teaching and assessment of subjects, and the generation and delivery of teaching materials in the Physics & Astronomy Collaborative-Learning Environment (PACE). In addition, the academic will complete a range of research-related activities in support of research program outcomes.

The Level A academic is expected to make contributions to the teaching effort of the University, particularly at undergraduate and graduate diploma level and to carry out activities to develop her/his scholarly, research and/or professional expertise relevant to the profession or discipline.

Reporting Line: The position the reports into a senior Academic within the School

Supervisory responsibilities: Not applicable

Financial delegation and/or budget responsibilities: Not applicable

Key responsibilities

Level A academics are expected to make a solid contribution to teaching and learning within their school or faculty and to inspire and motivate students to learn through effective communication. They should have a sound grasp of their subject matter and the development of assessment tasks and activities that foster intellectual independence.

Level A academic staff duties will have an emphasis on:

1. The conduct of research, including the supervision of undergraduate and post-graduate students and contributing to the development of competitive grant funding applications
2. Producing or contributing to the production of conference and seminar papers and publications from that research
3. Develop research collaborations within the School, and elsewhere at Monash

4. Supporting Academic Unit Co-ordinators with the delivery of Studio Physics at Level 1
5. Preparation and delivery of workshops, seminars and learning programs, provided that skills and experience demonstrate this capacity
6. Assisting with direction and supervision of practical laboratory Staff and/or teaching associates in the running of workshop classes in Studio Physics at Level 1
7. Contributing to the production of teaching materials for Level 1 physics students under the direction of the Unit Co-ordinator
8. Marking and assessment primarily connected with Level 1 physics units
9. Foster undergraduate and postgraduate research training (e.g., co-supervise honours and postgraduate students)

The Level A 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 they gain skills and experience.

Key selection criteria

Education/Qualifications

1. A PhD in physics or a related discipline

Knowledge and Skills

2. Possess a high level of interpersonal skills and demonstrated ability to work independently and as part of a team across both the education and service sectors
3. Ability to work positively and cooperatively with students, internal and external teams and agencies, and Senior Academic staff
4. Demonstrated record of teaching undergraduate physics, including delivery of lectures, laboratory programmes and small group teaching
5. Demonstrated ability to stimulate, actively engage and educate a given audience
6. Proven ability, commitment and passion for engaging in scholarly and research activities, including research achievements in astrophysics and/or physics, with a strong record of scientific creativity, publications and citations in the highest impact astrophysics and/or physics journals
7. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
8. A proven solid track record of refereed research publications
9. Excellent communication, planning and organisational skills, including the ability to prioritise multiple tasks and meet deadlines

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.