POSITION DESCRIPTION

THE UNIVERSITY OF MELBOURNE

School of Agriculture and Food
Faculty of Veterinary and Agricultural Sciences

Postdoctoral Research Fellow (Transmission of antibiotic resistance in agro-ecosystems)

POSITION NO	0045969
CLASSIFICATION	Level A
SALARY	$69,148* - $93,830 p.a. (*PhD Entry Level $87,415 p.a.)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time
BASIS OF EMPLOYMENT	Fixed term position available for 2 years
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers, select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Professor Jim He Tel +61 3 9035 8890 Email jizheng.he@unimelb.edu.au *Please do not send your application to this contact*

For information about working for the University of Melbourne, visit our website:
about.unimelb.edu.au/careers

Position Summary

ABOUT THE POSITION

The Faculty of Veterinary and Agricultural Sciences (FVAS) aims to lead and build passion and excellence to solve society's major challenges of sustainable land, food and environment. This Postdoctoral Research Fellow position will carry out research to understand the pathways and mechanisms for transmission of antibiotic resistance in agro-ecosystems. The position will be based in the School of Agriculture and Food, FVAS and will contribute to improve the Faculty's research performance and postgraduate training.

Antibiotics are widely used to effectively treat infections in humans and animals and contribute to our agricultural and food production industries. The emerging prevalence of antibiotic resistance genes (ARGs) in Australia and internationally has, however, put these advances at risk, and represents a major threat to public health, agriculture and food production. Along with the rising burdens of ARGs, it was assumed that environmental ARGs can transfer into the food chain, through their persistence in the intensive farming system involving manured soils and the subsequent human consumption of vegetables contaminated with ARGs. This project will use advanced molecular approaches to investigate all the major classes of ARGs in typical animal manure and vegetable farm, and to explore possible routes for transmission of ARGs from manure to soil and further to vegetable surfaces and endophytic bacterial communities. By providing capacity in soil and environmental microbiology, this position will promote the research and postdoctoral training in this important research field, and will also strengthen FVAS's growing research in soil nutrients management, waste management (feedlot manure and urban biochar), and the soil-borne disease/soil pathogens research.

The Postdoctoral Research Fellow is also expected to carry out appropriate statistical analyses, project report writing, paper manuscript preparation and the publication of research papers in relation to the research discipline. This role will provide the opportunity for professional growth and development, while supporting the teaching that addresses the major environmental issues of our time.

ABOUT US

The University of Melbourne has affirmed its position as the number one university in Australia, and remains among the fastest-rising research universities in the world's top 100, according to the Academic Ranking of World Universities (ARWU). It is counted among the best universities in the world – 33 by the Times Higher Education (THE) and 32 by the US News and World Report Rankings. Please visit Tradition of Excellence for further information.

The Faculty of Veterinary and Agricultural Sciences provide over 20 courses and 300 subjects to approximately 3,500 equivalent full time students. The Faculty provides the only professional entry veterinary program in Victoria and the Bachelor of Agriculture is the fastest growing undergraduate degree in Australia. The University of Melbourne's agriculture program is the largest in Victoria and ranked 36 in the world, whilst the Doctor of Veterinary Medicine program was the first graduate veterinary professional entry program in Australia. The Faculty is ideally placed to contemplate changes that have far-reaching consequences on its teaching, engagement and research.

1. Key Responsibilities

The University of Melbourne sets Minimum Standards for Academic Levels (MSALs) expected from academic staff. The levels are differentiated by level of complexity, degree of autonomy, leadership requirements of the position, and level of achievement of the academic.

Below is the standard for Level A academic staff. The Key Responsibilities, outlined are to be read in conjunction with this MSAL.

Level A - Tutor, Research Assistant (Grade 2), Research Fellow (Grade 1)

A level A academic will work with the support and guidance from more senior academic staff and will work under the supervision of academic staff at level B and above.

A level A academic is expected to develop their expertise in teaching, scholarship and/or research with an increasing degree of autonomy and may work with limited supervision and/or as part of a team.

A level A academic will contribute to teaching at the institution (at a level appropriate to the skills and experience of the staff member) and/or undertake research and/or engage in professional activities appropriate to his or her profession or discipline.

They will undertake administration primarily relating to their activities at the institution.

The contribution to teaching and supervision of students of level A academics will be primarily at undergraduate and graduate diploma level.

The results of research conducted may be published in collaboration.

1.1 TEACHING AND LEARNING

- This is a Research-only position, so there is no expectation to teach.

1.2 RESEARCH AND RESEARCH TRAINING

- Conduct research and deliver against research objectives to meet project milestones and reporting schedule as well as fully immerse in the research culture of the Faculty.
- Publication arising from scholarship or research in peer-reviewed journals, articles and oral and written presentations to industry and lay audiences, including presentations at field days, industry and science conferences.
- Attend and participate in Research Showcase events, including Discovery Day, and give internal and external oral seminars/lectures on the project topic areas.
- Under limited supervision, deliver against research objectives.
- Assist to identify and contribute to the application of research funds and grants.
- Within the scope of the level of appointment, supervise honours, postgraduate coursework and research higher degree students and ensure completions in a timely manner.
- Promote and develop strategic partnerships with industry organisations.
- Lead and foster research activities of, and mentor, staff and students as appropriate to the Level of the role.

1.3 LEADERSHIP AND SERVICE

- Participation in the communication and dissemination of information relating to the discipline.
- Contribute to and participate in committees, events such as Discovery Day and other activities at the Faculty level.
- Undertake administration primarily relating to the activities of the role as per the University of Melbourne Operating Model.
- Attendance at relevant conferences and incorporate learning's into practice, as funding permits.
- Engage with relevant professional and industry bodies and stakeholders to foster collaborative partnerships.
- Expand the knowledge of the discipline which impacts the field.
- Foster a harmonious workplace environment that is conducive to productivity, promotes creativity and rewards and recognises individuals and group achievement.
- Contribute and participate in committees, events such as Open Day, Dookie Day and other activities at the Faculty and/or University level.
- Undertake appropriate leadership roles within the Faculty, School and/or University, if available.
- Promote student well-being and ensure all students are aware of all University support services, working in collaboration or seeking advice from more senior staff.

1.4 RESPONSIBILITY AND COMPLIANCE

- Maintain a sound knowledge of current University Policy and Procedures, and reliably follow these or provide compliant advice to others;
- Reliably follow communications protocols and/or policies as appropriate.
- Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 5.
- Behavioural Expectations - All staff are expected to maintain the following behaviours:
  - Treat everyone equitably; act fairly with staff and demonstrate respect for diversity
  - Be an effective team player who is cooperative and gains the trust and support of staff, peers and clients through collaboration.

2. Selection Criteria

In order to be considered for interview by the Selection Panel, applicants must address the following Criteria in their application. Please visit the University website how to address Essential Selection Criteria

2.1 ESSENTIAL

- A PhD awarded in Soil Microbiology, Environmental Microbiology, or closely related discipline.
- Demonstrated ability to undertake molecular soil ecology research under limited supervision and delivering against research objectives evidenced by peer-reviewed

publications, journal articles as well as oral and written presentations to industry and lay audiences.

- Demonstrated skills in molecular biological methods.
- Demonstrated ability to statistically analyse biological data and complete research projects to specified deadlines.
- Excellent communication skills in English, written and oral, appropriate for scientific audiences, technicians and other stakeholders and collaborators.
- Demonstrated capacity to provide academic mentoring, counselling and consultation to students and/or more junior staff.
- Demonstrated ability to work with people of diverse cultural backgrounds.
- Capacity to work under limited supervision and as a member of a team to deliver high-quality scholarly outcomes.

2.2 DESIRABLE

- Experimental experience with metagenomics and bioinformatics.
- Experimental experience with antibiotic resistance genes in environmental context

2.3 SPECIAL REQUIREMENTS OF THIS POSITION

- As the Faculty of Veterinary and Agricultural Sciences is located over several metropolitan and regional campuses, staff may be required to travel to, or work from, other sites and campuses as required.
- Overnight travel for may be required from time to time.
- Annual leave must be taken at a time which accommodates the peak workflows of the area.

3. Equal Opportunity, Diversity and Inclusion

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy 2015-2020 and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised

as vital in our continuous deserve to service for excellence and reach the targets of Growing Esteem.

4. Occupational Health and Safety (OHS)

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

http://safety.unimelb.edu.au/topics/responsibilities/

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

5. Other Information

5.1 FACULTY OF VETERINARY AND AGRICULTURAL SCIENCES

http://fvas.unimelb.edu.au/

The Faculty of Veterinary and Agricultural Sciences was formed in July 2014 through the merger of the former Faculty of Veterinary Science and the Department of Agriculture and Food Systems. The new Faculty creates opportunities for closer research collaborations and the formation of interdisciplinary teams to address major issues in veterinary and agricultural sciences. The Faculty's core teaching, postgraduate training, research, clinical consultancy and industry development activities are delivered at the Parkville, Werribee and Dookie campuses, and the Veterinary Hospital operates at Werribee.

Our interdisciplinary approach applies scientific, social, political and economic perspectives to address the needs of both human communities and the natural environment. We address the issues of climate change, food production and food security, crop, plant and soil health, water management, sustainable use of resources for agriculture, animal health and disease and other problems challenging key decision makers today.

Our academic staff engage with government and industry to investigate critical societal issues and the faculty is home to University research centres dedicated to this work. They include: Animal Welfare Science Centre; Primary Industry Climate Challenges Centre; Centre for Animal Biotechnology; Centre for Equine Virology; and the Asia-Pacific Centre for Animal Health', in which the University is a core partner. Research within the Faculty has led to some outstanding outcomes including: increased agricultural productivity; vaccines and diagnostic products that have been commercialised throughout the world; enhanced animal welfare; improvements in public health; and contributions to basic understanding of animal biology.

The Faculty is the only provider of Veterinary Science courses in Victoria and one of only a small number of Universities doing so in Australia. The Bachelor of Agriculture and Bachelor of Food Science along with coursework masters in Agricultural Sciences and

Food Science offers one of the most comprehensive educational programs in agricultural and food science in Australia.

5.2 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at http://about.unimelb.edu.au/careers.

5.3 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. http://about.unimelb.edu.au/strategy-and-leadership

The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree, research higher degree or entry directly into employment. The emphasis on academic breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.

The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs. http://research.unimelb.edu.au/our-research/research-at-melbourne

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

- Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on

Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.

- Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.
- Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of Research at Melbourne: Ensuring Excellence and Impact to 2025.

5.4 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at http://www.unimelb.edu.au/governance