POSITION DESCRIPTION

THE UNIVERSITY OF MELBOURNE

School of Chemistry
Faculty of Science

Postdoctoral Research Fellow in Chemical Glycobiology

POSITION NO	0045070
CLASSIFICATION	Research Fellow Level A
SALARY	$69,148 - $93,830 p.a. (Level A PhD entry level $87,415 p.a.)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time
BASIS OF EMPLOYMENT	Fixed term 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 Spencer Williams Tel +61 3 8344 2422 Email sjwill@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

This research position is part of a research program on carbohydrate metabolism in bacteria. The program is a joint venture between the research laboratories of Professor Spencer Williams in the School of Chemistry, University of Melbourne, Dr Ethan Goddard-Borger (Walter and Eliza Hall Institute), and Professor Gideon Davies (University of York, UK). The aim of the program is to develop a molecular level understanding of the sulfoglycolysis pathway in a range of bacteria and other organisms.

The appointee will join the School of Chemistry as a Postdoctoral Fellow and undertake research within the laboratory of Professor Spencer Williams.

The appointee will conduct synthesis of carbohydrates for use as substrates and inhibitors, and will establish biochemical assays to monitor enzymatic reactions. The applicant will use techniques including ESI-MS, LCMS, NMR, and UV/Vis spectroscopy for analysing products and monitoring rates of reaction. The opportunity will be available for the appointee to participate in cloning, expression and purification of proteins, bacterial growth studies, and bioinformatic investigations, in partnership with the collaborating laboratories.

Salary is to be provided via funding from the Australian Research Council. The appointee will work both independently and in a team setting led by Professor Williams to contribute to the objectives of the project. In addition, the appointee will report results in refereed publications and in oral presentations, and be involved in collaborative interactions with other research groups. The applicant will be required to communicate effectively between the collaborating laboratories to help advance the aims of the project. The successful applicant will report to Professor Spencer Williams.

1. Key Responsibilities

- Synthesise and structurally characterise organic compounds.
- Biochemically characterize enzymatic steps in the sulfoglycolysis pathway.
- Undertake high quality research to probe the metabolism of sulfosugars through the process of sulfoglycolysis. This will be achieved by: (i) synthesizing and characterizing substrates and inhibitors for enzymes in the pathway; (ii) developing assays to allow biochemical characterization of sulfoglycolysis enzymes; (iii) liaison with collaborators to advance the aims of the project.
- Operate and maintain equipment within the group and assist staff and students undertaking research within the group.
- Provide guidance for undergraduate or postgraduate research projects within the Fellow's area of research expertise.
- Develop reports and papers based on research findings for presentation at conferences and seminars, and for publications.
- Participate in regular discussions with Professor Williams and collaborators on progress of the research project.
- Contribute to the preparation of research proposal submissions to external funding bodies, or where appropriate prepare them individually.
- Keep abreast of developments, activities and protocols in area of expertise through liaison with staff and peers, reading relevant literature and attendance at meetings and seminars.
- Attend meetings associated with research or the work of the organisational unit to which the research is connected and/or at School of Chemistry and/or Faculty meetings.

- Administrative functions associated with the research project, including reporting to the ARC.

2. Selection Criteria

2.1 ESSENTIAL

- A PhD in a field relevant to organic chemistry
- Experience in synthesis and structural characterisation of compounds, particularly using NMR spectroscopy.
- Experience in the conduct of biological assays and the ability to interpret the results.
- A track-record in research, as evidenced by high quality publications.
- Ability to show initiative and work independently and creatively on day-to-day research activities.
- Demonstrated ability to manage competing priorities and excellent time management skills.
- Excellent oral and written communication skills in English.
- Excellent problem-solving abilities.
- Ability to undertake and to initiate new research ideas and directions.
- Strong interpersonal skills, including demonstrated ability to work co-operatively in a multi-disciplinary team environment and liaise with collaborators from diverse range of backgrounds.

2.2 DESIRABLE

- Experience in use of UV-vis or fluorescence spectroscopy
- Experience in molecular biology including recombinant protein expression and purification.
- Evidence of, or potential, to supervise the research of undergraduate or graduate students.

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 desire to strive 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 SCHOOL OF CHEMISTRY

http://www.chemistry.unimelb.edu.au

The School of Chemistry at The University of Melbourne is one of the largest and oldest in Australia with a distinguished history in teaching and research. The first lectures in chemistry in The University of Melbourne were given in 1856, only three years after the University was founded. Since then the School has grown and developed and there are presently over 2500 undergraduates enrolled in Chemistry subjects, with more than 150 BSc (Hons), PhD and MSc research students. Teaching and undertaking research in the School are 25 continuing research and teaching staff, and over 35 research only staff, supported by a team of technical and administrative personnel.

The School has an excellent international reputation in research and an outstanding record of achievement in attracting external research funding. There is an ongoing program to keep its research facilities at world standard and to focus our research efforts. This has involved progressive upgrading of the School's laboratories, the purchase of state-of-the-art instrumentation and recruitment of academics with a strong research profile. In addition, we are building stronger links with other disciplines within the University and with other research institutions locally and internationally.

5.2 FACULTY OF SCIENCE

http://www.science.unimelb.edu.au

Science at the University of Melbourne is the most highly ranked Faculty of Science in Australia.* Science is defined by its research excellence in the physical and life sciences and is at the forefront of research addressing major societal issues from climate change to disease. Our discoveries help build an understanding of the world around us.

We have over 150 years of experience in pioneering scientific thinking and analysis, leading to outstanding teaching and learning and offer a curriculum based on highly

relevant research, which empowers our STEM students and graduates to understand and address complexities that impact real world issues and the challenges of tomorrow.

We aspire to engage the broader community with the impact that Science has on our everyday lives. Through the strength of our internships and research project offerings, our students are provided opportunities to engage with industry partners to solve real-world issues.

The Faculty of Science has over 40,000 alumni and is one of the largest faculties in the University comprising seven schools: BioSciences, Chemistry, Earth Sciences, Ecosystem and Forest Sciences, Geography, Mathematics and Statistics, and Physics.

The Faculty is custodian of the Bio21 Molecular Science and Biotechnology Institute, Office for Environmental Programs and home to numerous Centres.

Science manages more than $280 million of income per annum, with a staff base in the order of 220 professional staff, and more than 540 academic staff.

We offer a range of undergraduate, honours, graduate and research degrees; enrolling over 7,500 undergraduate and graduate students. The Faculty of Science is the custodial Faculty for the BSc (Bachelor of Science) with enrolments of approximately 6,200 students.

The Faculty of Science is a leader in research, contributing approximately $50 million in HERDC income per annum. The Faculty of Science is highly research focused, performing strongly in the ARC competitive grants schemes, often out-performing the national average. The Faculty of Science is currently growing its competitiveness and standing in the NHMRC space.

The Faculty of Science provides community services and industry partnerships based on a solid foundation of research in the pure and applied sciences. The Faculty has an endowment of approximately $50 million. The annual income from the endowment supports more than 120 prizes, scholarships and research awards

http://www.science.unimelb.edu.au/departments

*Figures from the latest available data for 2015, including published international rankings data.

5.3 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.

5.4 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.

5.5 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