Position Details

Role summary for potential applicants

Advertised Job Title:	OCE Postdoctoral Fellowship - Antivirial polymer therpeutics
Reference Number:	VIC13/01482
Classification:	CSOF4
Salary Range:	$81K to $88K plus up to 15.4% Superannuation
Location:	Clayton
Tenure:	3 years
Relocation Assistance:	☒ May be provided to the successful candidate **or** ☐ Not provided
Residency Status:	☐ Australian Citizens Only ☐ Australian Citizens and Permanent Residents Only ☒ All Candidates

Role Overview:

CSIRO offers PhD graduates an opportunity to launch their scientific careers through our Office of the Chief Executive (OCE) Postdoctoral Fellowships. Successful applicants will work with leaders in the field of science and receive personal development and learning opportunities.

Applications are invited for a three-year OCE Postdoctoral Fellowship in a project that will establish the use of high-throughput techniques (HTT) in the accelerated discovery of antiviral polymer-based prodrugs for the treatment of hepatitis C. This disease affects over 200 million people worldwide and ~ 300,000 in Australia alone yet, despite tremendous research efforts, the available treatment suffers from poor effectiveness and significant side effects.

To address this global challenge, there is an opportunity to identify successful polymer carriers for delivery of antiviral drugs to the liver and accomplish this using HTT for polymer synthesis, characterisation and evaluation. Antiviral polymer therapeutics via controlled radical polymerisation techniques such as RAFT (developed within CMSE) should allow production of smart polymers with precise control of polymer architecture. RAFT polymerisation enables the incorporation of functionality by copolymerisation of targeting and therapeutic co-monomers or via functional end-groups. HTT will

be implemented in accomplishing the synthesis, characterisation and biological evaluation of libraries of polymers. Finally, selected 'hit' polymers will be used to study bio-distribution of the drug-polymer conjugates.

Duties and Key Result Areas:

The Postdoctoral Fellow will be mentored but will be responsible for:

- Design, develop and characterise novel functional copolymers.
- Develop a protocol for a high-throughput platform (Chemspeed) to prepare libraries of statistical copolymers.
- Define available macromolecular space (e.g. achievable loadings of drug and targeting monomers, etc)
- Achieve expertise in biodistribution studies, in vitro efficacy of these polymers and in vivo targeting data, nominate the lead candidate(s) for clinical trials.
- Work with other team members and provide support and/or supervision of junior staff or students, etc.
- Produce high quality scientific and technical outputs including journal articles, conference papers and presentations, patents and technical reports.
- Develop innovative concepts and ideas for further research.
- Regularly review relevant literature and patents.
- Contribute to the effective functioning of the research team and help deliver upon CSIRO's organisational objectives.
- Participate in CSIRO's postdoctoral training program.

CSIRO's postdoctoral training program is a structured training program that will be developed between you and a CSIRO scientist. The program will allow you to further develop your skills in research, planning, management and communication.

Training and development plans will be designed to develop fellows' capabilities to the level expected of an independent researcher. Each plan will include on-the-job and course-based development encompassing:

- Discipline-specific techniques and protocols
- Professional growth
- Project management
- Communication and influencing skills
- Working and collaborating with others

For further information please see http://www.csiro.au/Portals/Careers/Postdoctoral-Fellowships/Postdoctoral-Fellowships.aspx

Selection Criteria:

Please note: Under CSIRO policy only applicants who meet all the essential criteria can be appointed

Pre-Requisite:
A PhD, or will shortly satisfy the requirements for a PhD degree, in a relevant scientific discipline.

Owing to the terms of CSIRO Postdoctoral Fellowships, you must not have more than 3 years relevant post doctoral experience.

Essential Criteria:

1. Demonstrated ability to conduct innovative research in synthetic organic chemistry and organic structure characterisation applied in the areas of small molecule and/or polymer synthesis.
2. Demonstrated ability to develop experimental plans and pursue novel research approaches.
3. Demonstrated originality, creativity and innovation in solving problems and introducing new directions and approaches.
4. Ability to work with a broad range of people from varying research backgrounds and evidence of strong oral and written communication skills, including the ability to publish the results of scientific research in scientific journals.
5. Demonstrated ability to work independently under minimal supervision while contributing to overall team performance and proven ability to meet performance deadlines during the course of the project.

Desirable Criteria:

1. Demonstrated ability and postgraduate experience in the techniques of polymer synthesis and characterisation, particularly in one or more of the areas of radical polymerisation, RAFT polymerisation and polymer modification.
2. Demonstrated ability and postgraduate experience in the field of medicinal chemistry

CSIRO is a values based organisation. In your application and at interview you will need to demonstrate behaviours aligned to our values of:

- Integrity of Excellent Science
- Trust & Respect
- Creative Spirit
- Delivering on Commitments
- Health, Safety & Sustainability

Other Information:

How to Apply: Please apply for this position online at www.csiro.au/careers. You may be asked to provide additional information (online) relevant to the selection criteria. If so, then responding will enhance your application so please take the time to provide relevant succinct answers. Applicants who do not provide the information when requested may not be considered.

If you experience difficulties applying online call 1300 301 509 and someone will be able to assist you. Outside business hours please email: csiro-careers@csiro.au

IMPORTANT: Please upload your resume/curriculum vitae and other documents in MS Word only so they can be converted to PDF before being sent to the Selection Panel. Please note only two documents can be attached to your application.

Referees: If you do not already have the names and contact details of two previous supervisors or academic / professional referees included in your resume/CV please add these before uploading your

CV.

Contact: If after reading the selection documentation you require further information please contact Almar Postma by email at almar.postma@csiro.au or by phone at +61 3 9545 2555.

Please do not email your application directly to Dr Postma. Applications received via this method will not be considered.

About CSIRO: Australia is founding its future on science and innovation. Its national science agency, CSIRO is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation. Find out more! www.csiro.au.

About CSIRO Materials Science and Engineering (CMSE): CMSE's innovation in new materials occurs at the intersection of biology, chemistry, and physics. Our research is making an impact for Australians in manufacturing, health, automotive and aerospace, defence and resource exploration.