



POSITION DESCRIPTION

Position Title:	Aerosol Scientist
Position Reference Number:	ECRLD010b
Division	Land Division
Position Classification:	S&T3-4 (APS4/5-6)
Position Location:	Fishermans Bend, Melbourne, Victoria
Security Level:	NV1
Enquiries:	Mr Mike Roberts, Michael.RobertsDR@dst.defence.gov.au , Ph 03 9626 7531

Academic Disciplines

Aerospace/ Aeronautical Engineering, Naval Architecture	Chemical, Radiological, Biological, Food sciences	Materials Science
Computer Sciences, IT, Software Engineering, Telecommunications	Mathematics and physics	Psychology and Social Sciences
Mechanical and Mechatronic Engineering (including robotics)	Electronic/ Electrical Engineering	Other

Position Overview

The Aerosol Defence science team provides support, training, advice and R&D for the ADF and National Security agencies. The capability provides comprehensive, science-based solutions to counteract and mitigate multiple threats posed by chemical, biological, radiological and nuclear (CBRN) airborne materials. Theoretical, modelling and experimental methods are applied to real-world CBRN problems delivering practical solutions to DST clients. Based on in-depth knowledge, skills and expertise in the Aerosol Sciences, Modelling, Analysis and Physical Sciences with access to the state-of-the-art facilities and support of other science and technology capabilities in DST Group, it represents a unique capability in Australia. Of particular strength are the areas of CBRN Aerosol Characterisation, Individual Protection Equipment (IPE) systems testing, Dermal and Respiratory Protection, Source Strength Assessment and Detection.

Position Duties

- Design and conduct experiments to support development of IPE system test methods for dermal and respiratory protection.
- Physico-chemical characterisation of aerosolised materials include sampling, identification and detection in laboratory and field settings.
- Theoretical and experimental assessment of aerosol source terms for dispersion modelling and exposure to hazards.
- Development of experimental systems, instrument interfacing and automation.
- Development of a sensor networks at fixed location and on mobile platforms.
- Mathematical modelling of aerosol behaviour, dynamics and processes.
- Work with other science team members and Defence clients to shape the Aerosol Defence R&D program.
- Demonstrated ability to conduct high quality R&D in the field of Aerosol Sciences or related discipline.
- Demonstrated skill in applied physics, math or engineering.

Position Requirements

- Experience and proven ability to develop efficient design of experiments
- Proficient in aerosol characterization techniques (e.g., air sampling, optical and gravimetric methods, SEM, chemical analysis)
- Strong verbal and written communication skills
- Expertise in using aerosol instrumentation (SMPS, APS, CPC, Spraytec), particle generation methods (e.g., Collison nebuliser, dry powder generators) and fluorescent aerosol markers.
- Experience in using one of the programming languages (Matlab, LabVIEW, Python, R).
- Skilled in design of experiments and statistical data analysis.

Other Requirements

Qualifications; PhD (or equivalent) in Aerosol Science, applied physics or engineering
Baseline Security Clearance on appointment with the ability to obtain an Neg Vet 1 Security Clearance for the position.