



ANALYTICAL SPECIALIST (RESEARCH AND DEVELOPMENT)/RESEARCH FELLOW

DEPARTMENT/UNIT	School of Earth Atmosphere and Environment
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level B
WORK LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

The **School of Earth, Atmosphere and Environment** is located in the **Faculty of Science** (<https://www.monash.edu/science>) and has close collaborations with other Schools, such as Physics, Chemistry and Biology, and with other Faculties, such as Business and Economics, Arts, and Engineering. The School has strong links with outside institutions such as CSIRO, The Australian Synchrotron, and Geoscience Australia as well as a large number of research institutes and universities globally. The School is multidisciplinary with a range of research groups in Solid Earth Sciences, Atmospheric and Climate Sciences, and Environmental Sciences. A detailed list of research groups and current and future topics can be found on the School's [webpage](#).

The School has a suite of world-class research facilities in geochemistry within the framework of the school's Isotopia Laboratory. These include: ThermoFisher Neptune plus MC-ICP-MS, Triton plus TIMS, triple-quadrupole iCAP-TQ and single-quadrupole iCAP-Q ICP-MS, ASI-RESolution ArF 193 nm excimer, New Wave UP 213 nm Nd-YAG solid state laser ablation systems, class 350 clean laboratories for isotope geochemistry, two Thermo Fisher Delta Plus Advantage, Carlo-Erba elemental analyser, Thermo Fisher H-Device, iCAP 7400 Duo ICP-OES and Ion Chromatograph, please see our [webpage](#). The School also benefits from access to state-of-the-art user facilities for materials and biological research such as the Monash Centre for Electron Microscopy, the Monash X-ray Platform, the Monash Micro Imaging Facility and the Australian Synchrotron, which is located immediately adjacent to Monash's Clayton campus.

POSITION PURPOSE

The Analytical Specialist (Research and Development)/Research Fellow is expected to carry out independent and/or team analytical support and development and associated analytical research within the field of isotope

geochemistry. The incumbent in this role also will carry out activities to develop their research expertise along with providing leadership in maintenance and laboratory management.

This role is responsible for overseeing and delivering high-quality analytical services to support the operations of the mass spectrometry and associated laser ablation systems, in particular in tandem in a split-stream mode. The incumbent plays a critical role in supporting the Pulse of the Earth research project (led by P. Cawood) and the broad fields of geochemical research within the school. The position will maintain existing and develop new techniques in mass spectrometry as well as collaborate with other geochemical specialists to support the research and teaching efforts of the School. This includes overseeing and undertaking testing, equipment maintenance, developing operating procedures, data analysis, computing, operational and budget planning, while ensuring a compliant and safe operating environment.

The analytical specialist is a subject matter expert and provides strategic and operational advice to clients, and delivers expert technical services with a focus on operational excellence.

Reporting Line: The position reports to a professor in the School of Earth Atmosphere and Environment

Supervisory Responsibilities: Although there is no direct supervision of personnel, this role supervises the staff/students who uses the equipment/laboratories, and also the safe work practices of the school

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level B research-only academic may include:

1. The conduct of analytical research either as a member of a team or independently and the production of conference and seminar papers, whilst providing supervision and guidance to research-support staff members
2. Oversee and administer the operation and maintenance of high-quality technical services or programs relating to the use of the mass spectrometers within the School, reporting on and minimising risks, undertaking data analysis, interpretation of results and reporting in accordance with operational standards, policies, timeframes and regulatory compliance requirements
3. Provide specialist and technical advice and/or training and supervision to clients, staff, students and other stakeholders in the operation and maintenance of the School's laser ablations systems, including the development of new instrumental techniques and compliance with technical standards and protocols
4. Providing advice on, developing and supporting the research programs, and the School's teaching and research mission in the broader Earth sciences, geochemistry in particular, including publication of research results and collaborative assistance where required
5. Develop and maintain up to date specialist or technical knowledge of new and innovative methodology, equipment, technology, data management and analysis in the field of specialisation, this will include the delivery of extremely high quality and reliable geochemical and isotopic analyses, and contribution to the School's reputation for scientific excellence in research and training both nationally and internationally
6. Provide support for budget management for the research technical service or facility, including planning, contributing to funding proposals and developing budget reports
7. Oversee and manage the day-to-day technical operations including; conducting experiments, testing or data collection activities, ensuring OHS&E compliance and safe operations, maintaining equipment and materials, waste disposal and ordering of supplies
8. Build and sustain partnerships, collaborations and networks with academic and other staff, relevant research/technical bodies, to meet and support the strategic plans and goals of the school and faculty
9. Co-supervision or, where appropriate, supervision of major honours or postgraduate research projects within the field of the staff member's area of research

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - A doctoral qualification in relevant field of geochemistry, chemistry, mass spectrometry or physics with a substantial geochemical component along with research experience

Knowledge and Skills

2. A track record of refereed research publications in analytical geochemistry or in which analytical geochemistry is a key part
3. Experience in successfully supervising, mentoring and coaching to support the development of research staff and/or a demonstrated trajectory of leadership capability
4. Demonstrated expertise in operating a successful program or laboratory facility, with a focus on operational excellence, with expertise in isotope geochemistry clean laboratory procedures and proficiency in operation of Inductively Coupled Plasma (ICP) Mass Spectrometers (MS) and laser ablation systems
5. High proficiency in sample preparation techniques for ICPMS analyses and laser ablation systems and demonstrated expertise in developing new analytical techniques, and the ability to adapt existing techniques, to meet specific user needs for ICPMS analyses
6. Proven experience in geochemical laboratory procedures and/or associated applications, preferably through peer-reviewed publications
7. Demonstrated experience in supporting a safe operating environment, implementing OHS requirements, developing operating procedures and providing authoritative oversight of complex technical processes and use of specialised equipment
8. Well-developed analytical and problem solving skills with ability to identify, troubleshoot and provide solutions to develop new processes and procedure for improvement
9. Highly-developed interpersonal and communication skills with the ability to prepare professional documentation for various audiences and provide expert advice in areas of specialist or technical knowledge
10. Demonstrated relationship management skills, including the ability to interact with, negotiate with and gain co-operation from internal and external stakeholders
11. Proven technical skills to such as split-stream laser ablation systems (LASS), MC-ICP-MS operations or high precision isotope analyses

OTHER JOB RELATED INFORMATION

- On-call (Emergency/safety related matters) off hours or on weekends, e.g., in case of rare power outages
- There may be a requirement to work additional hours from time to time

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.