Position Title: Microscopy and Microanalysis Technician
Reports To: Team Leader, Anita Grosvenor
Direct Reports: Nil
Group: Food and Biobased Products Group
Key Relationships: Science staff, service engineers and external customers
Location: Lincoln Research Centre Campus, Canterbury

WHO WE ARE

We are passionate innovators, dedicated to making a difference to the future of New Zealand by delivering world-leading research and through complex problem solving across diverse agricultural areas. We are respected by the scientific community for thought leadership, trusted by industry partners for the value we add to the sector, and admired by farmers and governmental stakeholders for all that we do to keep New Zealand at the forefront of global agricultural excellence.

We go beyond innovation to maintain AgResearch’s role as a leading collaborator and contributor to New Zealand’s worldwide agricultural reputation.

Our Vision is to drive economic prosperity by transforming agriculture while incorporating the fundamental concepts of sustainability, environmental responsibility and Vision Matauranga.

POSITION SCOPE & PURPOSE

The Microscopy and Microanalysis Technician fills a specialised role that includes processing samples and collecting data using advanced imaging methods such as scanning and transmission electron microscopy. In addition to coordinating and carrying out data collection and analysis in collaboration with supervisors/project leaders, this role also involves management of AgResearch’s relevant laboratories and instruments. The role involves collaboration with microscopy and microanalysis scientists and also a wider team working in proteomics and metabolomics—an instrumentation-rich research environment. This role includes troubleshooting, requiring a working understanding of imaging principles, computer systems and electronic instrumentation. Initiative and original thinking in relation to problem solving or modification of methods are required. Research work in the laboratory is highly cross-disciplinary and includes food, microbiology, tissue biology, and soft materials.
KEY ACCOUNTABILITY AREAS

RESEARCH CONTRIBUTION

- Follow standard procedures for collection and curation of data from a range of instruments (cameras, light microscopes, electron microscopes etc.) into databases, and contribute to the development of procedures.
- Management of maintenance schedules for imaging instrumentation and their support infrastructure, including interaction with maintenance engineers.
- Organisation of microanalysis laboratories and provisioning of specialised consumables.
- Follow protocols for preventative maintenance, deductive troubleshooting and corrective procedures to maintain optical, electro-optical and vacuum equipment.
- Perform work in specialised microanalysis routines such as immunocytochemistry, sample embedding, ultra-microtomy, image analysis and precise work with small delicate samples.
- Technical involvement in a variety of science activities including collection, evaluation and communication of results within a research team as directed by scientists and senior scientists.
- Use scientific methodologies for all research, including literature searching; hypothesis-based experimental design and statistical analysis; and follow rigorous development and documentation procedures for research protocols.
- Apply established research practices and methods and repeat tests using new techniques or technology as set by the Supervisor/Project Leader.
- Work flexibly to accommodate experiments that may, at times, require tasks to be carried out outside normal working hours (e.g., weekends), or require travel.
- Remain up to date with advances in area of expertise and legislative requirements applicable to relevant operations.
- At times, support Senior Scientists with written and oral communication of science findings.
- At times, assist Scientists and Researchers outside the microscopy and microanalysis area, and visiting scientists and students.
- Plan daily work schedule effectively to meet deadlines in a multi-project/multi-need environment.

HEALTH AND SAFETY

- Maintain current knowledge of AgResearch’s Health and Safety Management policies, systems, and procedures.
- Ensure awareness of own responsibilities and the procedures to follow in relation to health and safety.
- Identify and report any hazards, near misses or incidents as per prescribed policy and procedures.
- Demonstrate safe workplace behaviour by taking all practicable steps to ensure own and others’ safety in the workplace.
- Attend scheduled Health and Safety training and development initiatives on a regular basis.
ORGANISATIONAL OBJECTIVES

- Apply prescribed project management methodology into all project work.
- Apply principles of continuous improvement by taking ownership for identification, analysis and investigation of work-related matters with the intent to improve, manage compliance and initiate best practice in our place of work.
- Actively participate in and contribute to performance conversations and personal development.
- Embrace the AgResearch Values framework and develop own behaviours to support these Values on a continuous basis.
- Take responsibility for understanding and applying AgResearch policy, processes, systems, and procedures on a daily basis.
- Commit to accurate and timely information sharing and recordkeeping as per set organisational standards.
- Perform additional tasks, duties and/or responsibilities as directed by your manager.
- Assist and support AgResearch activities across different science groups and business units, as agreed with your manager.
PERSON SPECIFICATIONS

The person best suited to this position will possess the following:

EDUCATION & QUALIFICATIONS

- Relevant tertiary qualification: a post-graduate diploma, Bachelor of science or engineering degree with honours, or Master’s degree in relevant science or engineering field
- At least 2 years' technical experience that demonstrates ability to work in instrumentation-rich environments.

CAPABILITIES & EXPERIENCE

- Proven track record of implementing an assigned research or development plan
- Ability to work without direct supervision as and when required.
- Follows rigorous development and documentation procedures for research protocols.
- Experience in the 'under the hood' adjustment or maintenance of optical and/or electronic instrumentation.
- Working knowledge in the use of technical or scientific computer applications to the level of macro programming (e.g., image processing packages, statistical packages, laboratory automation packages, advanced spreadsheet use, programming environments).
- An eye for detail and the ability to complete repetitive and routine tasks to a high degree of quality.
- Experience with processing/experiments with samples at a laboratory bench scale.
- Working knowledge of database design, file systems and network organisation.
- Working knowledge of the physical principles of how analytical instruments generate data from samples.
- Experience in an environment that requires an understanding of health and safety requirements in a controlled (e.g., laboratory) environment including safe and effective work with scenarios (e.g., electrical, vacuum, cryogenic) and substances that may be hazardous.
- Beneficial to have prior experience working in a microanalysis research environment (e.g., confocal microscopy, molecular probe methods such as antibodies, synchrotron research, MALDI imaging, surface probe methods, or electron microscopy).
- Beneficial to have prior experience of workflows where sample preparation and imaging methods create standardised images from which numerical data is extracted.
- Beneficial to have a clean non-restricted drivers’ licence.
OUR VALUES

- Exemplifies Our Values
- Supports strategic priorities
- Assumes positive intent
- Is open to new ideas

- Acts with integrity
- Demonstrates credibility
- Appreciates diversity

- Actively seeks out relationships and partnership opportunities
- Works across boundaries
- Priorities shared goals

- Shares information and resources
- Involves others
- Supports others to be successful

- Maintains a best practice mindset
- Emphasis timely and high quality delivery
- Establishes challenging stretch goals and performance expectations

- Gathers, Compares and evaluates information
- Establishes robust decision making criteria
- Fully utilises support systems

- Prioritises time to innovate
- Takes a future and solution based approach
- Creates a positive learning environment

- Demonstrates openness to change
- Constructively challenges the status quo
- Emphasises freedom of independent thought
- Assesses risk

- Builds long term relationships with customers
- Provides clear, open and timely communication

- Identifies customer needs
- Commits to realistic delivery timeframes
- Translates initiatives into action

- Takes a long-term, strategic and future oriented perspective
- Focuses on the bigger picture
- Promotes the cross-fertilisation of ideas

- Champions transformational change
- Demonstrates decisiveness
- Commits to ongoing learning and development