Position Title: Postdoctoral Scientist
Reports To: Team Leader, Animal Health
Direct Reports: Nil
Group: Animal Science
Key Relationships: Technicians, Research Partners, Partnerships and Programmes Team, The Research Office, Internal and External customers, and external suppliers
Location: Hopkirk Research Institute, Grasslands Campus, Palmerston North

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
(1) Development of in vitro model and investigation of exosomal cargo. Develop cell culture model to study effects of Mycoplasma bovis on exosomes in vitro using bovine epithelial cell line(s) e.g., BEEL cells. Develop exosome isolation methods from cell culture model supernatant samples. Isolate exosomes from cell culture experiments. Undertake protein analysis i.e., LC-MS/MS, on exosome samples. Analyse proteomic data. Determine proteins specific to exosomes.

(2) Effect of M. bovis infection on cargo of circulating exosomes in New Zealand dairy cows (Stage 1). Develop in-house exosome isolation techniques and validation methods. Isolate exosomes from plasma (EDTA)/or serum samples of known positive and known-negative M. bovis-infected New Zealand cows. Proteomics investigation of isolated exosomes using LC-MS/MS. Data analysis of proteomics. Identification of potential protein targets for ‘stage-2’.

(3) Determination of suitability of protein targets for diagnostic test (Stage 2). Validation of protein targets in bovine samples using molecular laboratory techniques. Development of a targeted protein
As a Postdoc with the Exosome Project you will be required to (a) assist in project management and (b) developing and specifying the experimental design, (c) perform and supervise the experimental work, and (d) analyse, report, and publish the results.

**KEY ACCOUNTABILITY AREAS**

**RESEARCH STRATEGY AND DELIVERY**

- Acts as main investigator or co-investigator on dedicated research project.
- Undertakes experiments as agreed with the Principal Scientist or Programme Leader according to standard protocols and procedures, and in keeping with ethical and biosafety requirements.
- Contributes to administrative duties associated with conduct of research including ethics and grant applications.
- Establishes experimental design and planning of experiments in cooperation with the Principal Scientist or Programme Leader and conduct agreed experiments independently.
- Conducts studies of related literature and research to support the design and implementation of project, ensuring conceptual relevance, comprehensiveness, and currency of information.
- Conducts experimentation and data collection in accordance with the highest standards.
- Contributes to the interpretation and data analysis of experimental results.
- Maintains accurate and neat records of experimentation and experimental data to be adapted to standards suitable for publication.
- Performs general laboratory duties to ensure smooth operation and running of laboratory services as directed.
- Assesses, interprets and evaluates outcomes of research.
- Resolves problems effectively to ensure agreed outcomes are achieved at an optimal level.
- Presents research results and discussion of work at scheduled meetings to support meaningful conversations and sound decision-making.
- Contributes to secure funding where relevant and required.
- Consults with and reports regularly to the Principal Scientist or Programme Leader and produces reports of progress as agreed.
- Identifies new opportunities for delivering R&D solutions to the NZ pastoral industry in collaboration with appropriate people including Science Group Leaders, Portfolio Leaders, Science Impact Leaders and other Scientists to support overall research strategies.
- Displays a collaborative ethos, including a ‘right teams’ approach that optimally draws on
knowledge and capability across the organisation to deliver the best possible research outcomes.

PROJECT MANAGEMENT
• Adopts and applies overall organisational project management methodologies.
• Inducts new members or students of the project team into the laboratory as appropriate.
• Trains new students with procedures and protocols for research as required.
• Plans, conducts and coordinates detailed phases of work in accordance with agreed project management principles.
• Contributes to high quality research outputs and achievement of project milestones within budgets.
• Contributes to project reports as per project standards, agreement timelines, and set requirements.
• Manages the scheduling of experimental investigation and comply with relevant legislation and ethical approvals.
• Mitigates risks and issues, which may arise throughout the life cycle of the project.

SCIENTIFIC EXCELLENCE
• Consistently delivers high quality, relevant research in accordance to credible science criteria.
• Produces manuscripts at a high internationally acceptable standard as per agreed timelines.
• Writes and publishes articles in peer-reviewed journals/digests that highlight findings from research.
• Writes or contributes to publications or disseminating research findings using media appropriate to the discipline.
• Maintains an active involvement in the wider research community.
• Undertakes postgraduate student supervision as agreed.
• Presents research projects and findings at seminars and national and international conferences subject to available resources.
• Engages in collaborative research ventures with industry partners and other service providers, regionally, nationally and internationally as appropriate.
• Develops new concepts and ideas to extend intellectual understanding.

RELATIONSHIP MANAGEMENT
• Builds and maintains a strong culture of partnership with stakeholders, focussed on creation of impact in their sectors.
• Contributes to research and science outcomes through active discussion, participation and contribution of ideas and latest research in the field.
• Clarifies and incorporates input and expectations from partners and stakeholders into research
designs as appropriate.

- Communicates up to date results and appropriate information to researchers, funders, commercial partners, farmers, advisory groups and the pastoral industry in general.
- Networks with and presents seminars to industry stakeholders in the wider pastoral community.

HEALTH AND SAFETY

- Maintains current knowledge of AgResearch’s Health and Safety Management policies, systems, and procedures.
- Ensures awareness of own responsibilities and the procedures to follow in relation to health and safety.
- Identifies and reports any hazards, near misses or incidents as per prescribed policy and procedures.
- Demonstrates safe workplace behaviour by taking all practicable steps to ensure own and other’s safety in the workplace.
- Attends scheduled Health and Safety training and development initiatives on a regular basis.

ORGANISATIONAL OBJECTIVES

- Applies and implements prescribed project management methodology into all project work.
- Applies 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 participates in and contributes to performance conversations and personal development.
- Embraces the AgResearch Values framework and develops own behaviours to support these Values on a continuous basis.
- Takes responsibility to understand and apply AgResearch policy, processes, systems, and procedures on a daily basis.
- Commits to accurate and timely information sharing and recordkeeping as per set organisational standards.
- Performs additional tasks, duties and/or responsibilities as directed by your people leader.
- Assists and supports AgResearch business across different science groups and business units, as agreed with your people leader.
PERSON SPECIFICATIONS

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

EDUCATION & QUALIFICATIONS

• PhD degree in cell biology or related science area.

CAPABILITIES & EXPERIENCE

• Experience with basic scientific methodologies for cell biology, including sterile mammalian and bacterial cell culture, and molecular biology research
• Experience with literature searching
• Basic understanding of hypothesis-based experimental design and statistical analysis
• Follows rigorous development and documentation procedures for research protocols.
• Knowledge and interest in New Zealand pastoral agriculture industries.
• Has a clear understanding of the principles behind intellectual property.
POSITION DESCRIPTION

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

Our Future

Bright Minds  Leading the Way  Significance  Balance