

POSITION DESCRIPTION

POSITION:	Researcher, Methane Mitigation Research
TERM:	Fixed term (3 years)
STATUS:	Full time
LOCATION:	Palmerston North
SALARY:	\$65,000
DIRECTLY REPORTING TO:	Science Team Leader, Ecosystems & Global Change
FUNCTIONAL REPORTING TO:	Research Portfolio Leader, Realising Land's Potential

PRIMARY OBJECTIVE:

To undertake research on the soil and environmental processes influencing soil methanotroph populations to optimize their suitability for removing methane emissions from waste management systems and housed animals on farms. Some on-farm technical development work will be required, involving the development of close working relationships with e.g., farmers, farm managers. Work will be in both Government and Industry-funded programmes that are undertaken by the Realising Land's Potential Portfolio.

KEY ACCOUNTABILITIES:

1. develop an understanding of the processes regulating net methane fluxes between soils, farm wastes and the atmosphere;
2. to make best use of field data to optimize and verify the physical, chemical, and microbiological parameters favouring methane removals from biogas in close consultation with the research leaders;
3. conduct laboratory and field measurements of greenhouse gas fluxes using appropriate techniques;
4. conduct chemical, biological, and physical analyses of soils and farm wastes;
5. develop an understanding of methanogens and methanotrophs associated with methane production and oxidation for optimizing mitigation strategies;
6. quantify uncertainties and undertake statistical error analyses of measured estimates of greenhouse gas emissions;
7. contribute to data analysis and reporting findings to the funding agencies and in peer-reviewed national and international publications, seminars, popular articles and end-user reports
8. organise work schedule in consultation with project leaders;
9. maintain and monitor quality of results produced to ensure standards are met;

10. maintain accurate and up-to-date records of work in progress;
11. maintain field gear and instrumentation in state of readiness for field work, and contribute to the maintenance of a clean and safe working environment in the laboratory;
12. demonstrate an understanding of and commitment to Landcare Research's policies including the principles of the Treaty of Waitangi and equal employment opportunities.
13. **Health, Safety and Environment**
 - Take all practicable steps to ensure your own health and safety in the workplace, and that no action or inaction on your own part harms others
 - Comply with Health, Safety and Environmental Legislation and Regulations and Landcare Research safe work policies, procedures and instructions

PERSON SPECIFICATION:

Qualifications and Experience

- Postgraduate qualification in soil and/or environmental science with strong background in chemistry or physics, and in biochemistry, microbial ecology or environmental engineering
- Familiarity with the use of instruments, including a gas chromatograph, is highly desirable
- A basic knowledge of statistics would be an advantage
- An interest in environmental issues, climate change, and in applying models for environmental management

Skills and Attributes

- Able to work both independently and in a research team that encompasses skills in biogeochemistry and meteorology, exchanging and debating ideas, data etc with colleagues from a range of disciplines
- Be willing to work under supervision when necessary
- Excellent oral and written communication skills, including communication with colleagues in other regions
- Able to undertake responsibility for specific projects and to complete work consistently to a high professional standard within prescribed deadlines
- Have a good understanding of, and experience with, a range of software packages including word processing, spreadsheets, database, statistical and graphics
- Be capable of developing lasting relationships with research collaborators, policy agencies, and external clients

Other requirements

- To be able to carry equipment and soil and plant samples in hilly and steep terrain, and occasionally in all weathers, is essential
- Willing where appropriate, to receive training for specific skills (e.g. four wheel driving)
- A current driving license

INTERACTIONS/REGULAR CONTACT WITH:

Direct reports: Post-doctoral researchers, technicians, students

Internal: Research priority area leaders, scientists, research fellows, post-doctoral fellows and technicians

External: Pastoral Greenhouse Gas Research Consortium (PGgRc), Ministry for Primary Industry (MPI); Ministry for the Environment (MfE); New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), Members of the N₂Onet, Methnet and Carbonet groups; Researchers in other Crown Research Institutes (CRI's) including AgResearch, Plant & Food, NIWA; Universities including NZ e.g. Massey & Lincoln, and universities overseas

DELEGATIONS:

Initially none

Human Resources delegations:

None

COMMITTEE RESPONSIBILITIES:

Initially none

PERFORMANCE CRITERIA

Landcare Research has a Performance Appraisal process which provides an opportunity for the employee and their manager to discuss and agree what contribution the individual employee is expected to make during a regular review period towards achieving the strategic goals and objectives of the company.

Goals and objectives will be agreed annually. These will be consistent with the Key Accountabilities and Personal Attributes contained within this Position Description, and will include performance measures (statements of achievement), together with any support and professional development required by the employee to achieve those objectives.

This Position Description will be reviewed once a year, usually during the course of the annual Performance Appraisal meeting. Any changes which need to be made will be signed off by the line manager and the relevant Human Resources Advisor.

WORKING ENVIRONMENT & PHYSICAL DEMANDS

Landcare Research undertakes to ensure its workplaces are safe and that no person is harmed as result of our work activities. The list below is provided to give an indication of the type of environment and potential hazards which may be encountered in this role.

(tick appropriate boxes)

Physical	Biological/Chemical	Environmental
<input checked="" type="checkbox"/> Office/computing	<input checked="" type="checkbox"/> Soils, potting mixes, composts	<input checked="" type="checkbox"/> Adverse weather/heat/sun
<input type="checkbox"/> Standing for long periods	<input checked="" type="checkbox"/> Sewage and wastewaters	<input type="checkbox"/> Alpine conditions
<input checked="" type="checkbox"/> Manual handling/lifting	<input type="checkbox"/> Biosolids	<input type="checkbox"/> Off-shore islands
<input type="checkbox"/> Hiking/tramping - easy	<input type="checkbox"/> Insects	<input checked="" type="checkbox"/> International travel
<input type="checkbox"/> Hiking/tramping - hard	<input checked="" type="checkbox"/> Microorganisms	<input type="checkbox"/> Polar environments
<input type="checkbox"/> Camping out – “roughing it”	<input type="checkbox"/> Pathogens	<input type="checkbox"/> Isolated environments
<input type="checkbox"/> River-crossings	<input checked="" type="checkbox"/> Animals – contact/handling	<input type="checkbox"/> Geothermal areas
<input checked="" type="checkbox"/> On-road driving	<input type="checkbox"/> Plants and fungi	<input type="checkbox"/> Urban environments
<input checked="" type="checkbox"/> Off-road 4WD/ATV driving	<input checked="" type="checkbox"/> Chemicals/toxins	<input checked="" type="checkbox"/> Rural/farm environments
<input type="checkbox"/> Charter flying/Helicopters	<input checked="" type="checkbox"/> Flammable liquids/gases	<input type="checkbox"/> Production forestry blocks
<input type="checkbox"/> Travel in Boats/Ships	<input checked="" type="checkbox"/> Dusts/fumes/vapours	<input type="checkbox"/> Mines/earthworks/excavations
<input type="checkbox"/> Construction work	<input checked="" type="checkbox"/> Compressed gases	<input type="checkbox"/> Old mine shafts/pits
<input checked="" type="checkbox"/> Operating tools & equipment	<input type="checkbox"/> Cryogenic substances	<input type="checkbox"/> Roadside work
<input type="checkbox"/> Deft/fine manual tasks	Other	<input checked="" type="checkbox"/> Working at heights
<input type="checkbox"/> Microscopy	<input type="checkbox"/> Radioactive substances & equipment	<input type="checkbox"/> Noise (in environment or from equipment)
<input type="checkbox"/> Swimming/Snorkelling/Diving	<input type="checkbox"/> Electricity	<input type="checkbox"/> Confined space work
<input type="checkbox"/> Night time/shift work	<input type="checkbox"/> Lasers	
	<input type="checkbox"/> Firearms/hunters	