

## Honours Projects 2025



### Introduction

BAgrSc (Hons), BSc (Hons) and BV&O (Hons) students are required to complete a 40-credit project and write a dissertation at the 600-level. These dissertations are research-based and supervised by an academic staff member.

This booklet contains a list of some of the projects that are available in the coming year; it may be that other projects are also an option. Students are strongly advised to talk to potential supervisors as soon as possible.

Academic research staff have their own webpages at:

<https://researchers.lincoln.ac.nz/>

## Aims

Dissertations are aimed towards individual research and study. Such an approach provides for student initiative in developing a research idea through the initial proposal, review of literature, design of experiments, conduct of experiments, analysis of results and their discussion. This will provide an assessment of the student's ability to conduct independent research and communicate results to other students and staff.

## Objectives

At the completion of a dissertation a student should be able to:

- break down a problem into key questions.
- develop those questions into a research proposal.
- read and critically assess literature on the chosen research topic.
- write a research proposal.
- plan and conduct appropriate research work.
- analyse results according to accepted statistical procedures.
- write up the results in a form that encompasses the above and discusses the significance of the results compared with other studies.
- communicate progress and results through written and verbal methods.

Dissertations are assessed by the supervisor and an independent examiner, who is normally an academic staff member of Lincoln University.

## Enrolment

Please refer to the University website:

<https://www.lincoln.ac.nz/study/study-programmes/>

The regulations for the BSc (Hons), BAgSc (Hons) and BV&O honours degrees and the entry processes differ, and detail is available here:

- BAgSc (Hons): ..... <https://www.lincoln.ac.nz/study/study-programmes/programme-search/bachelor-of-agricultural-science/>
- BSc (Hons): ..... <https://www.lincoln.ac.nz/study/study-programmes/programme-search/bachelor-of-science-with-honours/>
- BV&O (Hons): ..... <https://www.lincoln.ac.nz/study/study-programmes/programme-search/bachelor-of-viticulture-and-oenology-honours/>

If you have any questions, please contact:

- BAgrSc (Hons)                      Professor Derrick Moot, Professor Leo Condron,  
   Professor Jon Hickford
- BSc (Hons) ..... Dr Carol Smith
- BV&O (Hons) ..... Dr Olaf Schelezki

## Application checklist:

You will need:

- English as a first language or provide documentation of your English Language proficiency
- Birth certificate or passport, certified copies only
- Academic transcripts, official copies or certified copies of all tertiary education qualifications either completed or partially completed
- The name of the area you're applying for honours in (e.g. Ecology) and a statement of research interest

To apply online go to: <https://www.lincoln.ac.nz/study/apply-and-enrol/>

***Special note:***    *If after Bachelor degree study you receive a letter of invitation from Lincoln University to study Honours, you are still required to complete an application form prior to registration.*

# AGLS Projects

Project Title		Email	Description	Supervisor(s)
1.	Effect of early life milk feeding on lifetime performance of dairy heifers	<a href="mailto:Racheal.bryant@lincoln.ac.nz">Racheal.bryant@lincoln.ac.nz</a>	In this research project, the student will compare growth rate and milk yield of calves which have different pre and post weaning growth rates to determine the impact on lifetime performance. Heifer replacements were reared as calves as either receiving restricted or high allowance milk feeding. The impact of these regimes has altered pre-weaning growth and potentially their milking ability, this research will investigate live weight gain and first lactation milk yield of these heifers.	Racheal Bryant
2.	Characterization of a novel haT transposon from Piosella	<a href="mailto:chris.winefield@lincoln.ac.nz">chris.winefield@lincoln.ac.nz</a>	Apomixis, or the formation of clonal seed, is a rare but widespread phenomenon across Viridiplantae. In the Asteraceae (the Daisy group of plants that include Dandelion, Sunflower and lettuce), Apomixis has occurred at least three times in the Taraxacum, Piosella and Hieracium genus. In each case the switch from sexual to asexual reproduction has been driven by a tyell DNA transposon inserted into the same site within the promoter of a gene called PAR (Parthenogenesis) 1 . We have isolated both the TE fragment and the mother element from the genome of Piosella. The Mother element is intact and encodes a completely novel transposase. The Honours project will focus on characterisation of this transposase and the mother element to confirm the element is "alive" and to explore the mode of action of the novel transposase. Underwood, C. J., et al.(2022). A PARTHENOGENESIS allele from apomictic dandelion can induce egg cell division without fertilization in lettuce. Nature Genetics, 54(1), 84–93. <a href="https://doi.org/10.1038/s41588-021-00984-y">https://doi.org/10.1038/s41588-021-00984-y</a>	Chris Winefield
3.	Unlocking the Secrets of Trichoderma-Plant Symbiosis	<a href="mailto:Artemio.mendoza@lincoln.ac.nz">Artemio.mendoza@lincoln.ac.nz</a>	Diverse strains of the Trichoderma genus establish symbiotic associations with plants, enhancing plant growth and triggering systemic protection against biotic and abiotic stress while directly inhibiting plant pathogens. However, these associations are still not completely understood at the molecular level. Our lab recently reported that TV2OG1, an enzyme from T. virens involved in secondary metabolites production, is necessary for maize root colonization and symbiosis in tomato plants. The	Artemio Mendoza-Mendoza; Helen Rees

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			<p>mutants lacking tv2og1(Dtv2og1) caused plant-stunted growth and leaf development inhibition in 60 tomato cultivars. In comparison, four cultivars showed resistance to the adverse effects of the mutant, suggesting a cultivar-specific communication between Trichoderma and tomato. The honour student will have the unique opportunity to investigate the molecular mechanisms underlying differential associations caused by Trichoderma. This project will investigate the role of fungal secondary metabolites in plant symbiosis using <i>T. virens</i> and 2 tomato plant cultivars (one resistant and one sensitive to Dtv2og1) as a model system. You will explore:</p> <ol style="list-style-type: none"> <li>1. The mechanisms that enable resistant tomato cultivars to overcome the negative effects of <math>\Delta</math>tv2og1,</li> <li>2. The response of the wild-type and Dtv2og1 strains associated with both cultivars.</li> </ol> <p>The honours student will compare these data and identify the molecular communication pathways that drive successful symbiosis between Trichoderma and tomato roots. With cutting-edge tools like RNA sequencing, qRT-PCR, and confocal microscopy, this research offers an exciting opportunity to contribute to understanding plant-fungal associations and their potential applications in sustainable agriculture.</p>	
4.	Elemental sulphur accumulation in grape and vine tissues	<a href="mailto:leandro.araujo@lincoln.ac.nz">leandro.araujo@lincoln.ac.nz</a>	<p>Elemental sulphur is extensively used in viticulture to prevent and combat Powdery Mildew (<i>Erysiphe necator</i>) infections. As a contact fungicide, sulphur is highly effective, cost-efficient, and minimally toxic, while also reducing the risk of microbial resistance development. However, residual sulphur on grapes can lead to significant wine faults, particularly through the formation of volatile sulphur compounds that cause reductive aromas resembling rotten eggs, cooked vegetables, and other off-odours. Despite the importance of this issue, there is a critical lack of data on sulphur residual levels in New Zealand and the factors contributing to its persistence. This project aims to investigate sulphur residual levels in key grape varieties produced in New Zealand, focusing on pinot noir, sauvignon blanc, and chardonnay, adding to previous surveys conducted in the 2023 and 2024 seasons. Moreover, it seeks to identify the</p>	Dr Leandro Dias Araujo, Dr Bin Tian

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			main factors contributing to sulphur accumulation on grapes and vine tissues. The student will carry out a range of activities including field work in close collaboration with industry partners and laboratory analysis. The outcomes of this research will provide valuable insights for New Zealand winegrowers, enabling them to balance effective management of powdery mildew with minimizing risks to wine quality. This study will contribute to both practical industry solutions and the broader understanding of sulphur residue dynamics in viticulture	
5.	Acid soils and aluminium toxicity: Novel legumes for high country	<a href="mailto:Jim.moir@lincoln.ac.nz">Jim.moir@lincoln.ac.nz</a>	The productivity of South Island high country is typified by a short, often soil moisture limited growing season, and acid soils (pH < 5.5). Traditionally, white clover has been sown as the key pasture legume but fails to persist. The use of alternative pasture species, such as deep rooting Lucerne, has been suggested to improve dryland pasture production. However, lucerne is known to be intolerant of acid soil conditions, and related aluminium (Al) toxicity issues. Nutrient (especially P) and trace element availability is also strongly influenced by soil pH. To offset increased soil acidity, lime must be applied, and where this cannot be done, soils may be too acidic for legumes and productivity declines sharply. Often the cost of lime is uneconomic in extensive high country, and the response to liming unknown. Although the relative Al tolerance of some forage legumes has been examined, information on many legumes is at best, vague. This study will examine a selection of novel pasture legume species grown in acidic / high aluminium soil conditions at Lincoln University. Soils will be adjusted to reflect a range of soil pH conditions, and the establishment and growth rate will be used to determine the relative performance of the focus legumes. Other soil ameliorants will also be examined.	Prof Jim Moir
6.	Effects of regenerative agriculture on dryland soils	<a href="mailto:Jim.Moir@lincoln.ac.nz">Jim.Moir@lincoln.ac.nz</a>	Dynamics of phosphorus (P) and nitrogen (N) cycling in grazed dryland systems are strongly influenced by soil fertility status and associated plant growth. The individual components of nutrient cycling such as P and N have only rarely been examined and tested in fully controlled grazed environments. This Honours project aims to close these knowledge gaps by utilising a closed	Prof Jim Moir

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			grazed farmlet system (the LU 'RADE' experiment), operated under 'high' and 'low' soil fertility (fertiliser P input) regimes. The impacts of regenerative agriculture principles, such as minimal fertilizer input and diverse pasture species in New Zealand dryland farming will be investigated. Specifically, key components of P and N cycling will be assessed and particularly the ability of each system to operate in a low soil fertility environment. With quantifiable data farmers can determine if regenerative agriculture is a feasible practice to implement.	
7.	Effect of crop wintering system on animal welfare	<a href="mailto:Racheal.bryant@lincoln.ac.nz">Racheal.bryant@lincoln.ac.nz</a>	In the South Island dairy cows are typically wintered on crops such as kale and fodder beet. Recent research has shown that wintering on pasture may reduce the risk of nitrate leaching due to increase in area allocation compared with crops. Secondary benefits include improvement in cow hygiene and comfort. This research will test the hypothesis that cows wintered on pasture have improved welfare compared with those on kale. This will be measured through visual and sensor observations of animal behaviour, hygiene and body condition score. The data collection period will take place between May and July	Racheal Bryant
8.	Fungicide seed treatments in controlling head smut (Ustilago bullata) in Bromus	<a href="mailto:John.Hampton@lincoln.ac.nz">John.Hampton@lincoln.ac.nz</a> or <a href="mailto:AungMyo.Thant@lincoln.ac.nz">AungMyo.Thant@lincoln.ac.nz</a>	The old seed treatments (Propiconazole and carbendazim) are no longer effective in controlling head smut in Bromus grasses. The glasshouse pot trials will assess the efficacy of new fungicides seed treatments in controlling Head smut (Ustilago bullata). An honours student will be involved in designing the experiment in February/March and monitoring the trials throughout the season.	Prof John Hampton, Adjunct Prof Phil Rolston, Dr Aung Myo Thant
9.	Designing dairy system with low carbon footprint	<a href="mailto:Omar.Al-Marashdeh@lincoln.ac.nz">Omar.Al-Marashdeh@lincoln.ac.nz</a>	In 2021, New Zealand reported a 19% increase in Greenhouse Gas (GHG) emissions compared to 1990 levels (Ministry for the Environment 2023). This rise was largely due to a 123% increase in emissions from dairy cattle and an 85% increase from road transport (Ministry for the Environment 2023). In response, the New Zealand government has set ambitious targets to reach net-zero emissions for all GHGs except methane by 2050, and to reduce methane emissions by 24%-47% below 2017 levels by 2050. Achieving these objectives will require the development and application of science-based agricultural mitigation strategies to reduce the impact on global warming. The student	Dr Omar Al-Marashdeh

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			working on this project will have a chance to use modelling tools such as Farmax and Overseer to design a dairy system with low carbon footprint while minimising impact on profitability.	
10.	The use of technologies to optimise operational performance of dairy farming	<a href="mailto:Omar.Al-Marashdeh@lincoln.ac.nz">Omar.Al-Marashdeh@lincoln.ac.nz</a>	Precision farming has embraced technological advancements to optimise operational performance. Within dairy farming, monitoring grazing behaviour is pivotal for assessing dairy cow dry matter intake, health, and overall welfare. Behavioural sensors have been innovated to precisely measure the duration animals spend grazing or ruminating. However, in New Zealand, the validation of grazing detection devices remains insufficiently explored. Hence, the student involved in this project will have the opportunity to investigate the accuracy and reliability of various wearable behavioural sensors designed for monitoring dairy cattle.	Dr Omar Al-Marashdeh
11.	Effect of udder conformation on milking performance in dairy cows	<a href="mailto:Omar.Al-Marashdeh@lincoln.ac.nz">Omar.Al-Marashdeh@lincoln.ac.nz</a>	Dairy cows' milking performance and health are influenced by udder conformation, which affect efficiency, productivity, and cow welfare. The Traits Other than Production (TOP) scoring system assesses traits beyond traditional production metrics. The TOP includes udder related traits such as udder conformation, teat length, and front and rear placements. In this project student will collect data from herd at Lincoln University Research Dairy Farm to investigate the relationship between udder and teat conformational traits and milking performance in dairy cows.	Dr Omar Al-Marashdeh
12.	Fertility and development of rainforest soils	<a href="mailto:Naomi.wells@lincoln.ac.nz">Naomi.wells@lincoln.ac.nz</a>	Soils fertility (nitrogen and phosphorous supply) controls forest growth – and thus carbon storage. But the availability of these nutrients in soils changes over time. These changes are hard to predict in forests with very high rainfall, which is hindering our ability to predict the size of the 'carbon sink' created by the rainforests on the South Island's west coast. During this Honours research project, the student will help address this knowledge gap about forest soil fertility by analysing how the carbon, nitrogen, and phosphorous contents of rainforest soils from Fiordland, Westland Tai Poutini, and Kahurangi change with latitude and with elevation. The student will gain critical skills in laboratory techniques, soil fertility assessment, and data analysis.	Naomi Wells, Leo Condrón



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13.	Characterization of soil aeration in differently compacted soils	<a href="mailto:Chamindu.Deepagoda@lincoln.ac.nz">Chamindu.Deepagoda@lincoln.ac.nz</a>	Soil aeration is critical for facilitating efficient gas exchange between the soil and the atmosphere, which is essential for optimal plant growth. Aeration essentially replenishes oxygen (O <sub>2</sub> ) in the root zone while removing carbon dioxide (CO <sub>2</sub> ) produced by root respiration, thereby maintaining a healthy soil atmosphere within a soil profile. In the vadose/unsaturated zone, soil gas movement is predominantly governed by diffusion, characterized by the soil-gas diffusion coefficient (D <sub>p</sub> , cm <sup>2</sup> s <sup>-1</sup> ). However, near-surface fluctuations in wind and pressure can also induce significant advective flow, determined by air permeability (k <sub>a</sub> , m <sup>2</sup> ). Both D <sub>p</sub> and k <sub>a</sub> are influenced by soil structure, making them valuable indicators of soil compaction due to agricultural machinery and livestock treading. This study aims to investigate D <sub>p</sub> and k <sub>a</sub> fingerprints in differently compacted soils across varying degrees of water saturation.	Chamindu Deepagoda (Lincoln University), Timothy Clough (Lincoln University), Wei Hu (Plant and Food Research), Sam Carrick (Landcare Research)
14.	Predicting soil thermal conductivity in undisturbed soils	<a href="mailto:Chamindu.Deepagoda@lincoln.ac.nz">Chamindu.Deepagoda@lincoln.ac.nz</a>	Soil thermal conductivity, λ (W/m.K), controls a range of soil ecosystem services and functions related to soil temperature. Thermal conductivity plays an important role in temperature-dependant processes such as crop growth, leaching of nutrients, carbon sequestration, and emission of greenhouse gases. As measuring λ is instrumentally challenging, it is common to estimate λ from easy-to-measure properties such as water saturation (S). In this study, an extensive soil thermal conductivity database will be tested against a wide range of λ(S) models available in literature. A new modelling approach will be examined to develop a new predictive model for thermal conductivity	Chamindu Deepagoda (Lincoln University), Timothy Clough (Lincoln University), Wei Hu (Plant and Food Research), Sam Carrick (Landcare Research)
15.	What's the carbon footprint of weeds in braided rivers?	<a href="mailto:Naomi.wells@lincoln.ac.nz">Naomi.wells@lincoln.ac.nz</a>	Braided rivers are a globally rare freshwater ecosystem that consist of a mix of fast-flowing channels and disconnected ponds. But dry gravel bars, which are largely ignored by water-focused scientists, actually form the largest proportion of the river area. The character of these gravel bars is changing as weeds, particularly woody species with deep roots, encroach. These weeds may be changing more than just the look of the river: by stabilising gravels and accumulating organic matter they affect how energy (carbon) moves across the landscape. During this Honours research project, the student will work with an	Naomi Wells, TBD

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			established research team to carry out a mix of field work and data analysis to figure out how much carbon is emitted from braided river beds with and without weeds. The student will gain skills in greenhouse gas measurement techniques, data processing in R, and drone imaging.	
16.	Production of saffron biopharmaceuticals in microbial cells and <i>Nicotiana benthamiana</i>	<a href="mailto:chris.winefield@lincoln.ac.nz">chris.winefield@lincoln.ac.nz</a>	Saffron, the dried anthers from the flowers of <i>Crocus sativus</i> , produces a number of significant bio-pharmaceuticals. However, the levels and cost of saffron precludes the affordable production of these compounds for Neutraceutical use. Recently the biochemical pathway for the production of crocetin and crocin's from glycerol have been introduced into <i>Escherichia coli</i> . This project will seek to investigate whether other saffron biochemical pathway genes can be functionally expressed in either <i>E. Coli</i> or the biotechnological factory plant <i>Nicotiana benthamiana</i> . This will involve identification, cloning and generation of genetic constructs to allow for the production of recombinant proteins in both bacteria and plants, followed by testing for function of these proteins in-vitro and in-vivo.	Chris Winefield
17.	Competing Down Under: Unveiling the competitive ability of New Zealand wheat root systems	<a href="mailto:pieter-willem.hendriks@lincoln.ac.nz">pieter-willem.hendriks@lincoln.ac.nz</a>	Wheat stands as a cornerstone of global food security, constituting approximately 20% of the world's human calorie intake. In New Zealand, wheat comprises 25% of arable production. Weeds are the major biotic stressors of crop production. In the current system they are kept under control through tillage and herbicides. The rapid escalation of resistance, compounded by the limited availability of effective chemical solutions, underscores the urgent need for integrated weed management strategies. In this project, as part of a small team, student will be looking at one of the tools of the IWM toolbox: Crop Competitive Ability. The work will focus on the early below-ground root traits of wheat cultivars to assess their competitive ability.  The student will discover a variety of techniques and methods that will be valuable in their future endeavours, including (1) Experimental Design and Execution: Students will learn to design and implement experiments using different controlled environment growing methods such as hydroponics and soil tubes. This skill is fundamental in various research and	PW Hendriks

Project Title		Email	Description	Supervisor(s)
			development roles, (2) Advanced Image Analysis Techniques: Through the utilisation of state-of-the-art image analysis tools, including root scanning and AI-assisted root detection, students will acquire proficiency in handling complex data sets (3) Data Collection and Analysis: Students will have the opportunity to produce and analyse their own datasets, preferably using statistical programming languages like R. This experience will equip them with the ability to derive insights from data. Through this assessment of multiple wheat root traits, this work will support extended research on integrated weed management, the key to the sustainable production of crops. It will also provide the students with indispensable skills for their future careers in agriculture, research, and related fields.	
18.	<b>The Chaser: Investigating Oat Cultivars' Below-Ground Potential as Catch Crops</b>	<a href="mailto:pieter-willem.hendriks@lincoln.ac.nz">pieter-willem.hendriks@lincoln.ac.nz</a>	Nitrogen leaching is an ongoing problem in agriculture. Catch crops as a tool to mitigate this issue, play a crucial role in sustainable agriculture. This project aims to explore the potential of various oat cultivars in this capacity. We will focus on examining the root systems of oat cultivars through controlled environmental assessments. In controlled environments and utilising different growing techniques and advanced image analyses, the study aims to characterise oat root systems and identify the traits that make a given cultivar the best Chaser. The student will discover a variety of techniques and methods that will be valuable in their future endeavours, including (1) Experimental Design and Execution: Students will learn to design and implement experiments using different controlled environment growing methods such as hydroponics and soil tubes. This skill is fundamental in various research and development roles, (2) Advanced Image Analysis Techniques: Through the utilisation of state-of-the-art image analysis tools, including root scanning and AI-assisted root detection, students will acquire proficiency in handling complex data sets (3) Data Collection and Analysis: Students will have the opportunity to produce and analyse their own datasets, preferably using statistical programming languages like R. This experience will equip them with the ability to derive insights from data. Through this systematic exploration of oat root	PW Hendriks and Paul Johnston (PFR)

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			systems in controlled environments, "The Chaser" aims to contribute valuable knowledge to sustainable agricultural practices but also empower students with indispensable skills for their future careers in agriculture, research, and related fields.	
19.	Spud Shift: Breaking Ground Without Breaking Soil with not till potatoes	<a href="mailto:pieter-willem.hendriks@lincoln.ac.nz">pieter-willem.hendriks@lincoln.ac.nz</a>	No-Till Potato Production offers an innovative challenge that reimagines traditional practices. In conventional potato farming, mounding soil around plants is essential to encourage tuber development and protect them from sunlight, which can cause greening and spoilage. However, this project explores groundbreaking techniques to achieve the critical mounding process without the disruptive tillage that harms soil structure and depletes organic matter. By focusing on preserving soil health while maintaining optimal potato production, this initiative provides a unique opportunity to pioneer eco-friendly agricultural solutions and gain hands-on experience in advancing food sustainability. The student will discover a variety of techniques and methods that will be valuable in their future endeavours, including (1) Experimental Design and Execution: Students will learn to design and implement experiments using different controlled environment growing methods such as hydroponics and soil tubes. This skill is fundamental in various research and development roles, (2) Data Collection and Analysis: Students will have the opportunity to produce and analyse their own datasets, preferably using statistical programming languages like R. This experience will equip them with the ability to derive insights from data.	PW Hendriks and Andy Greer
20.	Integral health dairy farm	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Integral health dairy farm	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
21.	Deer nutrition and rumen function of pregnant vs non pregnant hinds	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Deer nutrition and rumen function of pregnant vs non pregnant hinds	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
22.	Use of nano technology to	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Use of nano technology to prevent mastitis	Pablo Gregorini, David

Project Title		Email	Description	Supervisor(s)
	prevent mastitis			Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
23.	Grazing management of beef cattle under 2 defoliation strategies	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Grazing management of beef cattle under 2 defoliation strategies	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
24.	Grazing management of sheep and forage species to alter milk metabolomics	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Grazing management of sheep and forage species to alter milk metabolomics	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
25.	Primary and secondary chemistry of forages affected by season, canopy structure and time of day	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Primary and secondary chemistry of forages affected by season, canopy structure and time of day	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
26.	Modelling the effect of sward structure on grazing behaviour of cattle	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Modelling the effect of sward structure on grazing behaviour of cattle	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
27.	Effect of grazing management on sward and rhyosphere structure	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of grazing management on sward and rhyosphere structure	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
28.	Effect of fertilizer on maize silage quality	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of fertilizer on maize silage quality	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
29.	Effect of pasture functional diversity on grazing	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of pasture functional diversity on grazing behaviour and milk components	Pablo Gregorini, David Scobie, Titus and Stuart

Project Title		Email	Description	Supervisor(s)
	behaviour and milk components			Charters from the COE designing future productive landscapes.
30.	Effect of grazing systems on carbon emissions feo. Dairy farm	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of grazing systems on carbon emissions feo. Dairy farm	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
31.	Effect of grazing management on meat flavors	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of grazing management on meat flavours	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
32.	Effect sex and pregnancy on deer grazing behavior	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect sex and pregnancy on deer grazing behaviour	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
33.	Estimating carrying capacity of saudi arabia rangelands	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Estimating carrying capacity of Saudi Arabia rangelands	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
34.	Effect of grazing management on sheep wellbeing	<a href="mailto:Pablo.gregorini@lincoln.ac.nz">Pablo.gregorini@lincoln.ac.nz</a>	Effect of grazing management on sheep wellbeing	Pablo Gregorini, David Scobie, Titus and Stuart Charters from the COE designing future productive landscapes.
35.	Biases, Biodiversity and big data	<a href="mailto:william.godsoe@lincoln.ac.nz">william.godsoe@lincoln.ac.nz</a>	A huge issue in ecology is to understand how biodiversity changes over time and when these changes matter. This project will get a student to explore large publicly available datasets on	William Godsoe

Project Title		Email	Description	Supervisor(s)
			<p>biodiversity. The student will then test new methods to predict changes in biodiversity over time. This will give a chance to combine knowledge of living things with data science. Previous work on this project has led to papers such as:</p> <p><a href="https://nsojournals.onlinelibrary.wiley.com/doi/full/10.1111/ecog.06987">https://nsojournals.onlinelibrary.wiley.com/doi/full/10.1111/ecog.06987</a></p>	