LA TROBE UNIVERSITY

LA TROBE INSTITUTE FOR SUSTAINABLE AGRICULTURE AND FOOD

DIRECTOR

La Trobe Institute for Sustainable Agriculture & Food

Contents

Welcome from the DVC (Research and Industry Engagement) and Provost

On behalf of the University, we warmly welcome your interest in leading the La Trobe Institute for Sustainable Agriculture and Food (LISAF). This position represents an exciting opportunity to join a dynamic and growing Institute.

The successful candidate will play a key role within LISAF by driving the Institute's vision of being a world leading research & training Institute and delivering innovative solutions for sustainable and nutritious food production in a resource and climate-constrained world. The position builds on the University's international reputation for its research excellence.

LISAF is one of two flagship Institutes within La Trobe University and represents a key strategic initiative that supports La Trobe University's world-class research and research training in the agri-food value chain from "paddock to gut". This appointment comes at a time of growth for La Trobe University across sustainable agriculture and food value chain with initiatives such us the University City of the Future, the Research & Innovation Precinct, and the Australian Food Innovation Centre (AFIC).

The successful candidate should bring an outstanding record of international achievement in academia, a breadth of academic vision, strategic thinking, and demonstrable experience leading and inspiring teams in an innovative industry or academic environment. They will ensure the Institute continues to excel in the areas of research, planning and people management. They will be also an inspiring leader with the ability to build strategic relationships both domestically and internationally with key external partners, ranging from local communities to industry and government.

We would be pleased to discuss this opportunity with you.

Professor Chris Pakes
Deputy Vice Chancellor Research and Industry Engagement
La Trobe University

Professor Robert Pike
Provost,
Trobe University

About La Trobe University

Our Mission

Advancing knowledge and learning to shape the future of our students and communities.

Our Vision

To promote positive change and address the major issues of our time through being connected, inclusive and excellent.

Our Values

Our early reputation as a radical and challenging institution continues to influence the way we enrich the experience of our students and engage with our partners and communities.

We were founded half a century ago to broaden participation in higher education in Melbourne's north and, later, in regional Victoria. We have succeeded for many thousands of students who would otherwise have been excluded from the opportunities provided by a university education.

We continue to support access, diversity and inclusivity while undertaking world-class research that aims to address the global forces shaping our world and make a difference to some of the world's most pressing problems, including climate change, securing food, water and the environment, building healthy communities, and creating a more just and sustainable future. This approach is based on our values of:

- inclusiveness, diversity, equity and social justice
- pursuing excellence and sustainability in everything we do
- championing our local communities in Melbourne's north and regional Victoria
- being willing to innovate and disrupt the traditional way of doing things.

Of all Australian universities, we are the most successful at combining accessibility and excellence and have become a place where social inclusion and globally recognised excellence come together for the benefit of our students, our staff and our communities.

Our academics and researchers achieve national and international recognition, our public intellectuals demonstrate an enduring social conscience and influence, and our alumni achieve extraordinary success and impact in government, industry and not for profit organisations.

We strive to be exemplars for the sector in our commitment to gender equity and to inclusivity for marginalised groups; and we work with indigenous peoples and organisations to support their social, cultural and economic aspirations.

We embrace sustainable practices across all our campuses because we are committed to improving environmental, social and economic outcomes for our communities.

We contribute to economic development for our local communities, and our future activity will increasingly be international as we become a globally connected university in everything we do.

Our Culture

La Trobe Cultural Qualities

Our cultural qualities underpin everything we do. As we work towards realising the strategic goals of the University, we strive to work in a way which is aligned to our four cultural qualities:

Connected

- We are Connected: Connecting the students and communities we serve to the world outside

Innovative

- We are Innovative: Tackling the big issues of our time to transform the lives of our students and society

Accountable

- We are Accountable: Striving for excellence in everything we do. Holding each other to account, and working the highest standards

Care

- We Care: We care about what we do and why we do it, because we believe in the power of education and research to transform lives and global society.

About the Deputy Vice-Chancellor, Research and Industry Portfolio

La Trobe University has a proud history of conducting research to address pressing societal needs. Our researchers work in partnership with community groups, industry and government to create opportunities and address issues of local, national and international importance. Our research positively impacts the communities we serve.

Our five-year Research and Industry Engagement Plan, Research 2030 consolidates and focuses the research strengths of La Trobe University. Research 2030 supports the La Trobe Strategic Plan 2020-2030, setting the direction for La Trobe.

In implementing Research 2030, we are building on our research achievements, strongly positioning La Trobe to make world leading contributions in response to the global challenges we will face in 2030 and beyond. Research 2030 articulates our research vision and objectives, as well as our measures of success.

Linked to the United Nation's Sustainable Development Goals, the plan identifies five research themes which speak to our research strengths and priorities. These research themes are the focus of our two flagship institutes (the La Trobe institute for Sustainable Agriculture and the Care Economy Research Institute), our investment in research and infrastructure, and guide our industry, government and international collaborations.

These theme areas are:

- Sustainable Food & Agriculture
- Resilient Environment & Communities
- Healthy People, Families & Communities
- Understanding & Preventing Disease
- Social Change & Equity
- Digital Technology & Transformation

Our researchers work together across schools and campuses, using their expertise and knowledge to strive for common goals.

Further to this, *Research 2030* guides how we will become industry's partner of choice, how we will drive international research collaborations and how we will improve efficiency and productivity in all we do.

La Trobe is uniquely positioned to engage with regional communities, including First Nations communities and we will continue to embed these important relationships as we work towards our goals.

We recognise the importance of establishing diverse, safe and inclusive teams in all areas of our research and in our research leadership.

We know that socially diverse and inclusive teams are innovative and high performing; we support this diversity at La Trobe.

I look forward to facilitating the growth of La Trobe's reputation for producing high-impact research through the implementation of Research 2030.

I invite you to become part of this exciting period of La Trobe's history.

Professor Chris Pakes
Deputy Vice-Chancellor
(Research and Industry Engagement)

About the Office of the Provost

In 2021, La Trobe commenced a major change program to support the University's Strategic Plan 2020-2030, which was developed to help the University emerge from COVID-19 as a more resilient, future-focused and efficient institution.

As a result of the transformation program, the Office of the Provost was established.

The primary objective of the Office of the Provost is to support the University's academic operating model.

Focusing on strategy and performance, with budget and resources being directed to delivering high quality, efficient, professional services to schools, we have invested in processes, systems and technology.

I am committed to embedding the University's cultural qualities into academic and professional staff processes.

Staff development is critical and career planning and individual achievements will culminate in our collective success.

I invite you to become part of the team and look forward to a successful journey with you.

Professor Robert Pike Provost

About the La Trobe Institute for Sustainable Agriculture & Food (LISAF)

The La Trobe Institute for Sustainable Agriculture and Food (LISAF) has been established with the expertise and financial backing to apply world-class research to meet global food challenges in coming decades. La Trobe is making further investment in agri-food to drive sector growth, improve health outcomes and commercialise new food products.

Our goals are to find solutions that enable sustainable agriculture that will provide food of the quality and quantity to meet global food challenges in coming decades and to provide sustainable food production to generate enduring profitability for growers and deliver real benefits for the community and the economy. We work with industry and research partners to cultivate new ideas and find ways to add value to existing products.

We have established partnerships with world renowned researchers, growers, health and nutrition specialists, and leading national and international food producers to enable the research underpinning higher yielding and more nutritious farm produce. LISAF innovations are aimed at providing impact across all elements of the value chain, and are also underpinned by expertise in agrifood business, supply chains, provenance and agrifood tech.

LISAF's "Paddock to Gut" program runs across five overlapping domains:

1. Farming Systems-Soils and Agronomy.
2. Protected Cropping.
3. Fit for Purpose Seeds.
4. Food and Nutrition; and
5. Food Business, Food Security and Digital Agriculture

To deliver on this vision, LISAF requires an outstanding Director to lead the Institute. This appointment is the critical strategic leadership position for LTU identified to drive the Vision/Mission of the Institute contributing to the development of the Agri-food-health ecosystem in Melbourne's north as the premier agri-food R&D precinct, and to establish LISAF as an international leader in agri-food-health research and translation continuum by fostering outcome-focused research and education through its interdisciplinary research domains.

They will be expected to provide guidance in the disciplinary field and foster excellence in research, research policy and research training within the institution, discipline and/or profession and within the scholarly and general community.

They will be expected to contribute to the leadership within LISAF and the University as a whole.

Prof Tony Bacic
Outgoing Director, La Trobe Institute for Sustainable Agriculture & Food

Domain 1: Farming Systems- Soils & Agronomy

Improved farming practices that are tailored for crop, location, and climate.

Farming systems need to be profitable, socially acceptable, and environmentally robust if they are to be sustainable. Climate change and the increasing frequency of catastrophic weather events are impacting sustainable farming systems. For example, the increase in atmospheric CO2 is predicted to increase plant productivity but such benefits will be limited by water and nutrient deficiencies and be variably impacted at different latitudes. It is not known how Australian grain production systems, characterised by low-rainfall and infertile soils, will respond to elevated CO2 conditions.

Furthermore, Australian soils are among the most weathered and nutrient depleted in the world and have been subject to further degradation by past farming practices and will continue to decline with climate pressures. We must improve the way we manage our soils for sustainable food production.

Consequently, this domain focuses on three major research challenges:

- abiotic stress sensitivity for future climates,
- the influence of C02 on nutrient (nitrogen/ phosphorous/ seed protein and micronutrients) content of crops, and
- improved farming practices for soil health and optimised plant/ crop outcomes for farmers and consumers.

Soil organic matter is the key to the productivity and sustainability of soil. It accounts for 73% of the organic carbon in the terrestrial biosphere and is about 3.2 times the size of the atmospheric pool. Our research aims to increase our understanding of how farm practices affect the dynamics of soil organic carbon and will hopefully lead to improvements in soil carbon sequestration.

We examine what drives yield responses and sensitivity of crop species to abiotic stressors such as high temperatures and drought; the impacts on field-grown plants used in medicinal agriculture, such as those producing essential oils; and the genetic variability for tolerance/ sensitivity to high temperatures, drought and interactions between heat and drought. The physiological information collected will be used to build a crop model to examine the predicted impacts and risks associated with climate change on future cropping systems.

We will work with the La Trobe Business School (LBS) to incorporate the findings from farm natural capital accounting. Natural capital in agriculture is the natural resources that farmers manage for the benefit of their businesses, society and for future generations of producers. It includes soil, water and waterways, pastures and crops, remnant native vegetation, agroforestry and environmental plantings, and animals. LBS is currently undertaking a project to compile natural capital accounts for 50 Australian farms ahead of establishing an analytical framework for a Natural Capital Benchmarking Platform.

Where appropriate we will also interface with LTU strengths in the School of Humanities and Social Sciences (Prof Katie Holmes & Prof Lauren Rickards) and Profs Nick Bond, Jim Radford and Andrew Bennett, and external partners to broaden our understanding of the socio-economic impacts of farming systems. Understanding Farming Systems provides a bridge to link lab and plot scale studies (i.e., soils, genetics) to the producer (farmer) and then the food and fibre consumer within the context of future market drivers (e.g., TFND4, Carbon Plus initiatives).

Domain 2: Protected Cropping – Medicinal Agriculture & Horticulture

Protected Cropping is a rapidly expanding AgTech area for high-value crops/plants and is the fastest growing food producing sector in Australia, with a farmgate value of $1.3B. Protected cropping enables the consistent, year-round production of high-quality crops, resulting in crop production that is up to 800% more efficient, a reduced need for pesticides and herbicides and an increased conversion rate of water (grams of crop produced per litre of water) by more than 500% and, by eliminating run-off, dramatically reduce the volume of fertiliser needed- a "farming system" that has enormous potential to deliver benefits to Australia's ambitious agricultural output NFF goal of $100B by 2030 and simultaneously meet our sustainability obligations from agriculture.

Current LISAF capabilities in controlled growth facilities and high-tech phenotyping through non-invasive imaging have been recognised with a proposed $8.5M cash investment by NCRIS Australian Plant Phenomics Network (APPN) to establish a Victorian node of the APPN (2024) through the next NCRIS funding round. This will build on the LTU and State Government VHESIF funding of $14M ($3M and $11M, respectively) for glasshouse upgrades to provide facilities and specialist equipment for collaborative research programs with industry.

These explore the link between phenotyping data and growth traits and yields, and to study the impact of fertiliser regimes on plant health and beneficial traits. This facility will be unique in Australia with its sophisticated compliance overlay to meet Federal and State regulations for medicinal agriculture plants, in particular, through the Department of Health, Office of Drug Control.

The LISAF Medicinal Agriculture program is centred on the LTU-led $24M+ **ARC ITRH for Medicinal Agriculture** (MedAg Hub). It comprises agricultural and biomedical researchers along with industry partners, to transform the production of high quality, plant derived therapeutics into an integrated, Australia-wide industry that spans primary producers and manufacturers, and ultimately to improve health outcomes for patients. It also builds the specialised education, training and workforce needed to underpin Australia's developing medicinal agriculture industry.

The current focus is on medicinal cannabis, with research into plant varieties, commercial cultivation practices and extraction techniques. We are studying how medicinal cannabis plants, and their active ingredients, respond to environmental and nutrient conditions and are developing phenotyping and hyperspectral imaging solutions to link these traits and to other impacts such as pests and diseases.

We are also working with clinical researchers to identify which components or mixtures of cannabis extracts display activity by in-vitro or ex-vivo screening that may have beneficial impacts on some conditions, addressing the legitimate concerns of health practitioners seeking evidence-based research into the quality, purity and efficacy of cannabis products.

The five-year MedAg Hub is funded to December 2024, and our re-bid strategy will see opportunities for new industry partners in medicinal cannabis (e.g., PhytoGro, ECS); additional technology companies (e.g. SpexAI); expanded scope of the MedAg Hub with the inclusion of programs on developing alkaloid poppy products that are non-addictive (building on our strength in previous poppy programs), Psychedelics (e.g. psilocybin mushrooms), traditional herbal medicines, essential oils and other novel products expressed in crop species; and expanded education and workforce training programs in collaboration with industry (e.g. PharmOut), LTU, and TAFEs (led through the APPS).

A horticulture theme will leverage the increased opportunities for protected cropping across the country but particularly in the Victorian food bowl incorporating Shepparton, Bendigo, Mildura and Swan Hill. This regional reach was recently demonstrated with the successful $5M+ DAWE grant from the Regional Research Collaboration Program (RRCP) for "**Next Generation Protected Cropping in a Regional Manufacturing Facility - a Medicinal Cannabis Exemplar**". RRCP will see LTU deliver an Australian-first advanced protected cropping research and training project through its regional campuses (Mildura/ Shepparton/ Bendigo) in collaboration with industry, research, technology and training partners. It will support high-value protected cropping and be a model for future horticultural production. The skilled workforce developed through the project will predominantly be created in regional settings.

The recently announced LTU-led $27M **ARC ITRH for Protected Cropping** (2025-2029) will continue the programs in medicinal agriculture and extend these into horticultural crops.

Domain 3: Fit for Purpose Seeds – productivity, quality and biological engineering

There are complex constraints and threats to on-farm production and profitability that can be addressed through the development of seeds with optimised and desirable traits. Our aim is to bioengineer cereal and legume seeds and the molecular processes contributing to their development to enhance seed production, nutrition and agronomic qualities, to deliver tailored products for end users. Current limitations include an effective capacity to challenge the design of seeds to manipulate post-harvest nutritional qualities. By developing "fit-for-purpose seeds" we can generate connectivity between the traditionally disparate fields of agriculture, food processing and nutrition/health.

This approach maximises opportunities for socio-economic impact at both ends of the agri-food supply chain by simultaneously addressing improved nutritional outcomes and premium quality seeds for Australian agriculture. Seeds (legumes) and grains (cereals) are the single most valuable output from plant production, providing 70% of global food resources. Cereal grains, particularly wheat and barley which are the two major cereals, are low in soluble dietary fibre whereas legume grains are considered the "ideal" nutritional package but unfortunately most of it is inaccessible in the gastro-intestinal tract and seed yield and quality are significantly impacted by a/biotic stresses, and they often contain anti-nutritives.

Seeds are also a critical input to agriculture. Uniform germination and establishment in the field enables growers to achieve optimal plant-spacing to suppress weed growth and ensure plants reach maturity for harvest at the same time. Germination at the correct time ensures that environmental conditions match the requirements of seedlings, increasing the likelihood of establishment. In contrast, germination at the wrong time causes a range of problems that have agricultural and economic impacts. Preharvest sprouting, where seeds germinate whilst still on the parent plant, reduces seed quality and value. This is common in commercial cultivars of major crops, such as wheat and barley, because they have been selected for rapid germination, with value losses of 10% being common. Consequently, plant production depends upon seed germination and one of our research goals will be to improve understanding of this fundamental process.

Past breeding strategies had a narrow focus solely on yield traits, such as seed size, mass and number, because producers saw these as a route to increased profit. However, this focus has resulted in decreased nutritional quality. The future of food will instead see nutritional traits driving breeding strategies and the delivery of high-quality products. This market differentiation of high nutritional and sustainable "premium products" provides the opportunity for enhanced value-add for local and export markets as well as health benefits for consumers.

Our interests in both the germination and seed quality domains build upon a core area of LTU expertise. Current research programs include a focus on dietary fibre to support gut health, e.g. with PepsiCo USA by improving nutritional traits in oats, and with 10x Genomics on the molecular mechanisms operating in individual cells to control germination.

Our Domain leads also had key roles in recent CoEs: CoE in Plant Energy Biology and CoE in Plant Cell Walls. Additionally, the recently awarded ARC CoE Plants for Space (P4S), led by University of Adelaide, is well-aligned to this and other domains. The P4S aims to address the challenges of creating and modifying plants for use in space. This is in essence protected cropping in an extremely resource constrained environment, so must produce highly nutritious food with great efficiency – work that will advance emerging technologies such as programmable gene editing, digital modelling, AI, and plant-based food processing. This research will push the boundaries of growth and productivity, providing new solutions for sustainability, and efficiency gains in primary production on Earth.

Another area with opportunities for innovation and expansion is in plant proteins, a high-value product that is sourced entirely from seeds. Plant proteins provide an alternative to animal proteins, yielding notable health benefits with lower environmental impact and greater sustainability.

We are part of a rebid (led by the University of Sydney) for a CRC focussed on Alternate Proteins. We are also in discussions with companies to conduct research on native seeds, hemp seed foods and fibres. Lastly, and perhaps most ambitiously, seeds are an excellent vehicle for bioengineering and large-scale biofactory application to produce custom protein products at very large scale. We intend to develop Biofoundry capability that allows us to apply synthetic biology capabilities in plant seeds.
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Domain 4: Food, Nutrition and Health - incorporating Nutritional Bioengineering

Industrialisation of the food supply has placed greater reliance on "food-processing" with profound consequences for human health. Beneficial food components, such as dietary fibre, have been reduced and healthy "complex carbohydrates" replaced with processed "simple" sugars. This has changed both the nature and digestibility of carbohydrates in the diet and their balance with respect to the other two macronutrients, proteins and fats.

LISAF aims to tackle the intersection between food supply and health, by bringing together leading researchers in plant carbohydrate structure and function, nutrition and dietetics, food science, gut microbiology, computational modelling and bioengineering to find the best possible nutritional outcomes when diet, microbes in the gut and the host system combine. Study of the complex plant-based food-gut microbe-host interactions support the design of more nutritious foods and provide a better understanding of food-related health impacts at the molecular level. Expertise in nutritional bioengineering (e.g. through modification of carbohydrate components), plant design and partnerships with peak agri-food industries, will see these designs translated into new crops and grains (through Domain 3) with added value at each step of the supply chain.

Fibre (carbohydrate matrices: cells walls and digestion-resistant starches) plays a critical role in human and monogastric animal nutrition in several ways by: determining the chemical and physical characteristics of foods; how food is processed and perceived in the mouth; the nature and amount of food that survives digestion in the upper gastrointestinal tract and therefore enters the large intestine; the ecological communities of microorganisms in the gut; and the behavioural and physiological responses and health. We neither understand what constitutes an optimal composition and intake of carbohydrate as fibre, nor the mechanisms by which it interacts with other macronutrients to shape host-microbiota interactions. We will use an integrated "systems-based" approach to define the relationship between dietary carbohydrate matrices, macronutrient balance and biological outcomes.

LISAF/LTU will address these problems by leveraging the Australian Food Innovation Centre, a partnership with CSIRO, and building on the capabilities of LISAF to integrate a new Centre for Food Science (CFS) led by Prof Roman Buckow. CFS is the engine room for the development of the Australian Food Innovation Centre (AFIC) on the Bundoora campus that will partner with CSIRO's Australian Food Innovation Network (AFIN) to form a national food innovation ecosystem. The CFS will enable LISAF to take advantage of a complete value chain approach and collaboration opportunities in nutrition and health evaluation of foods as well as food process engineering, alongside pre-existing expertise and facilities within LISAF on Farming Systems, Protected Cropping, Fit for Purpose Seeds, and Food Business, Food Security and Digital Agriculture. In line with major research trends, industry needs and gaps in the Australian research capability landscape, the following six (6) Research Themes are proposed to be core to CFS: Food Biotechnology, Food Processing, Food Structure, Food Quality & Functionality, Nutrition & Health and Food Data.
The LTU Food, Nutrition and Dietetics capability (Prof G Moschonis) brings experience in epidemiological research to understand consumers' needs, expectations, and readiness to embed new food products in their diet. The results from this research can guide/inform the targeted development of functional foods and support the development of new food products. This builds on LTU involvement in the Digicare4You study: An intersectoral innovative solution involving DIGItal tools, empowering families and integrating community CARE services for the prevention and management of type 2 diabetes and hypertension. Clinical trials capability will be used to examine the sensory properties of the newly developed food products and the clinical effectiveness of functional food products (e.g. impact of alternate proteins on muscle function, probiotic effectiveness on bones), thus also supporting health claims.

Domain 5: Food Business, Food Security and Digital Agriculture.

The Australian agricultural economy faces significant challenges across the value chain. There is a distinct need for the integration of business frameworks in the creation and dissemination of innovative solutions to pressing issues around innovation in food production, security, nutrition and health.

This domain focuses on three major research challenges:
- integration of business and social interventions required to create new solutions.
- workforce upskilling
- facilitating the adoption of innovative agricultural solutions.

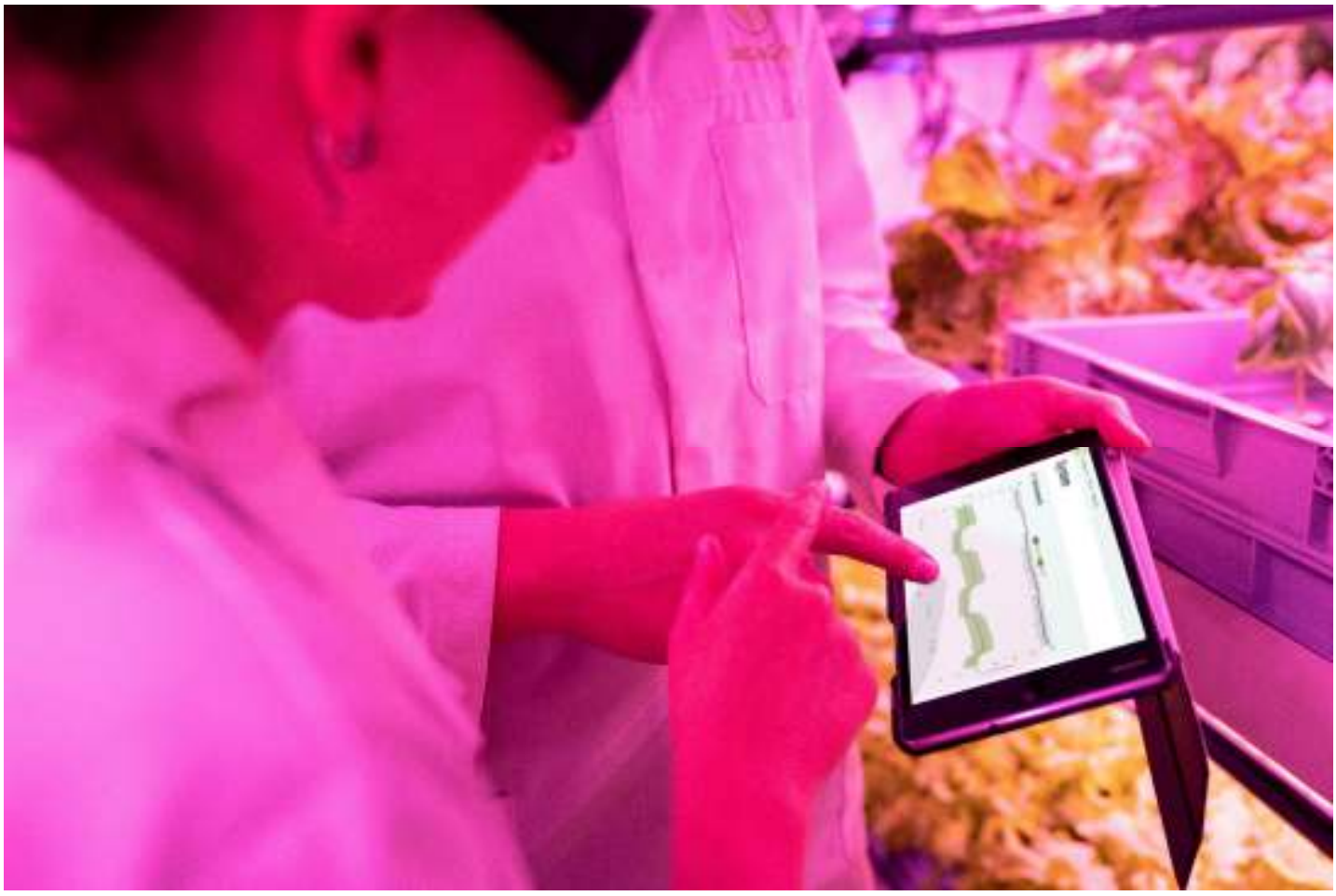
This gap puts at risk the ability of both business and government to make informed forecasts and to prioritise targeted investments in the agriculture and food value chain.

LISAF, working with the La Trobe Business School (LBS), is building the capability to meet the food security challenges and to support investment in innovations that foster markets and products that meet consumer preferences, and next-generation agricultural and food manufacturing practices. Recent LBS strategic appointments include Prof David Flemming Munoz and Dr Ernesto Valenzuela Dominguez.

Key enabling techniques to help Agri-food businesses to meet this demand are AI, IoT and blockchain. Specifically, IoT sensors are used to capture produce-data throughout the supply chain, the collected data are enhanced with more insights using AI, and data are saved on the blockchain to ensure immutability. In programs led by Prof Wei Xiang, CISCO Chair of AI & IoT, School of Computing, Engineering, and Mathematical Sciences, we are applying digital technologies in both broad acre and protected cropping agricultural systems.

We are expanding our current and past work that includes food and medicinal agriculture provenance using tracking systems or chemical signatures.

Some of our research programs within this domain are:
ARC Med Ag Hub
ARC PC Hub
iMove CRC
SmartSat CRC



Working with Government, Industry and Community

La Trobe University has a proud history working with State and Federal Government, industry partners and the communities we serve both within Melbourne and regionally.

LISAF is housed within the impressive AgriBio building, which brings together La Trobe's world-class research and the work of the Department of Energy, Environment and Climate Action (DEECA) and Agriculture Victoria. The building houses several technical facilities including:

- Transformation and Gene Editing for crop species.
- Extensive Growth Facilities (Glasshouses, CERs (PC2/QC2)).
- Mineral and chemical analyses of soil, plant and seeds.
- Laser Capture Microdissection.
- Bioinformatics platforms.
- Sequencing Platform.
- Big Data integration and analysis.
- Fluorescence Activated Cell Sorting (FACS).
- Single cell 'omics-RNAseq & metabolomics
- Phenomics (2D, 3D, hyperspectral, fluorescence, RGB, cloud-based analytics).
- Omics capabilities:
- Genomics & transcriptomics
- Glycomics(mono-/oligo-/polysaccharides)
- Metabolomics (untargeted/targeted; including volatiles)
- Proteomics (amino acids/peptides/proteins)

La Trobe University is also establishing a new state-of-the-art agri-food research and innovation facility in the Research & Innovation Precinct at La Trobe's Bundoora campus. The Australian Food Innovation Centre (AFIC) will create a national agri-food network to drive sector growth, jobs, improve health outcomes and commercialise new food products. LISAF will work closely with AFIC through the Centre for Food Science (CFS) to sustainably develop sufficient food to meet the demand for population growth and leverage food science and nutrition to remediate chronic health conditions.

La Trobe University recently developed the University City of the Future vision, which is the largest capital plan in the University's history, transforming both the Bundoora Campus as well as Melbourne's north, and will create long term job, innovation and economic growth through a $5 billion investment over 10 years.

About the Position

The La Trobe Institute for Sustainable Agriculture & Food (LISAF) is a key strategic initiative that supports La Trobe University's (La Trobe) world-class research and research training in agriculture, food and health and wellness. Global population growth, combined with an increase in diet-related illness and the need for more nutritious food, highlight the need to integrate agri-food and health. LISAF takes advantage of the opportunities presented through this intersection between food and its impact on health to improve nutritional outcomes, leveraging the substantial investment by LTU in expertise and infrastructure.

LISAF's vision is to use a holistic approach to deliver innovative solutions for sustainable and nutritious food production in a resource and climate-constrained world, fostering outcome-focused research and education through its interdisciplinary research domains. LISAF will deliver innovation across a "paddock to gut" program in five Domain areas of 1. Farming systems – soils & agronomy, 2. Protected cropping – medicinal agriculture & horticulture, 3. Fit for purpose seeds, 4. Food, nutrition & health, and 5. Food business, food security and Digital Agriculture.

To deliver on this vision, LISAF requires a Director to lead the Institute. This appointment is the critical strategic leadership position for LTU identified to drive the Vision/Mission of the Institute contributing to the development of the Agri-food ecosystem in Melbourne's north as the premier agri-food R&D precinct, and to establish LISAF as an Australian and global leader in agri-food research and translation. The position will provide leadership in building LISAF's research profile, partnerships, and international reputation in food, nutrition, and health. The appointee will be a world expert in agri-food biotechnology and be expected to foster excellence in research, research policy and research training within the institution, discipline and/or profession and within the scholarly and general community. They will also be expected to contribute to the leadership of the University as a whole.

The Director reports to the DVCRI&E and performs a pivotal and instrumental academic leadership role in the University's organisational structure and carries significant accountability for providing a coherent academic vision and direction for the Institute, through the DVCRI&E and ultimately the University Council. The Director of LISAF is financially accountable and the recognised budget holder for the Institute. The Director is responsible for determining and successfully delivering the strategic direction of the research portfolio within its remit aligned with the strategic imperatives of the Institutions Research and Industry portfolio supporting the Institute's research and knowledge transfer.

All Professors are members of the University's Academic Board and are expected to contribute to the leadership not only of their School, but also of the University as a whole.

Duties at this level may include:

- Working in collaboration with the DVC-R&IE and the Senior Leadership Team to ensure the effective and efficient achievement of the Institute's Strategic and Operational Plans.
- Development and implementation of a strategic plan for LISAF consistent with La Trobe's research strategy; including setting strategic goals, defining priorities, and outlining action plans.
- Providing exemplary research and innovation leadership, and develop a culture of excellence, innovation and collaboration across the research domains of the Institute
- Providing leadership and mentorship within the Institute to build strong high functioning teams who work towards clear goals and targets. Develop, with the domain leads, funding pipelines to support the largescale programs of research across the research domains
- Exercising a strategic academic and administrative leadership role and assuming overall responsibility for the operations of the Institute.
- Fostering excellence and advancement of the research discipline of agri-food biotechnology for value chain impact. Play a major role in elements of major research projects including management and leadership.
- Providing leadership and fostering excellence in research and policy development across the agri-food sector, with research institutions, industry and government, nationally and internationally.
- Supporting the development and, where necessary, lead large multidisciplinary research proposal submissions to external funding bodies and industry.
- Monitoring the external environment to inform the continued development and currency of programs, systems and processes within the Institute.
- Encouraging and promoting a robust and innovative research culture within LISAF and the University.
- Supervising Higher Degree by Research (HDR) and major Honours or postgraduate research projects.
- Playing a leading role in discipline-based mentoring and supporting the development of early and mid-career research, teaching, and administrative staff within the Institute/ Department/ School/ University.
- Contributing to broader leadership processes with the University.
- Taking a leading role in the professional field, nationally and internationally, via appropriate national and international organisations and events, including involvement with government agencies, commercial and industrial sectors where appropriate.
- Building collaborative and sustainable relationships with, and act as expert advisor/consultant to industry and other external organisations.
- Undertaking other duties and administrative functions commensurate with the classification and scope of the position as required by the DVCRI&E.

Selection Criteria

- Completion of a PhD a relevant discipline.
- Demonstrated previous experience in research leadership in a university or other higher education institution at Professorial Level, including proven ability to develop and execute strategic plans that achieve set key performance indicators.
- Outstanding record of original, innovative and internationally recognised research in the agri-food sector with evidence of its impact and significance in agrifood value chains.
- Strong understanding of the food and agriculture industries and the policy settings shaping these sectors.
- Demonstrated high level strategic leadership and management experience in leading research teams or programs.
- Demonstrated success in supervising, mentoring and fostering the research activities of others and contributing effectively at multiple levels within an organisation.
- A substantial record of success in external research funding through competitive national or international grants, philanthropy, and/or industry funding.
- Demonstrated effectiveness in liaising with, and delivering outcome-focused programs with, collaborators and industry partners, and in promoting research links with outside organisations/agencies.
- Highly developed oral and written communication skills with an ability to lead and motivate others, to resolve conflicts and to confer with a broad range of stakeholders.
- Ability to demonstrate drive and integrity through a strong commitment to actions and taking responsibility for role modelling the professional behaviours important to the University.

La Trobe Cultural Qualities

Our cultural qualities underpin everything we do. As we work towards realising the strategic goals of the University, we strive to work in a way which is aligned to our four cultural qualities:

Essential Compliance Requirements

To hold this La Trobe University position the occupant must:

- Hold, or be willing to undertake and pass, a Victorian Working With Children Check; AND
- Take personal accountability to comply with all University policies, procedures and legislative or regulatory obligations; including, but not limited to, TEQSA and the Higher Education Threshold Standards.

How to Apply

All Applications should be submitted using the online portal.

When submitting your application, the following information is required:

Curriculum Vitae

Please include the following:

- Details of your education, professional training and qualifications with year of completion.
- A full list of publications and research grants.
- Positions you have held, including relevant dates, titles, responsibilities and key achievements.
- Other relevant information such as your contributions to professional associations and learned societies, and community activities.

Selection Criteria

Please address all Selection Criteria.

Vision Statement

Taking the Selection Criteria into consideration, provide a brief summary of your vision, what you will bring to this position and the strategies you would use to realise it.

Referees

- Provide full contact details for at least three referees who have agreed to supply confidential references if requested by the University.
- State your relationship to the referees and why they have been nominated to speak on your behalf.
- Referees will only be contacted after prior consultation with you.
- It is your responsibility to ensure referees are willing to provide reports when contacted.

Other information

As part of the application and appointment process, candidates may be requested to provide proof of their identity and give permission for verification of their tertiary qualifications and an Australian Federal Police check.

All La Trobe University employees are bound by the Working with Children Act 2005. If you are successful, you will be required to hold a valid Victorian Employee Working with Children Check prior to commencement.

La Trobe University is a proud member of the Science in Australia Gender Equity (SAGE) Athena SWAN program to increase the number of women and gender diverse people in science.

https://www.science.org.au/ supporting-science/gender-equity

About Victoria and Melbourne

Experience Melbourne

Melbourne is the capital of the state of Victoria, and Australia's second largest city. It's a multicultural hub with 5 million people from over 153 countries. It's one of the world's best sporting cities and is Australia's art and culture capital. Melbourne is a safe, well-serviced city in which to live. The main campus of the University at Bundoora is close to many world class hospitals, schools, research centres, shopping centres, bike paths and parklands. Melbournians enjoy, affordable healthcare, world-class education, reliable infrastructure, business opportunities and a healthy environment. In Melbourne you'll find just about every cuisine: French, Italian, Spanish, Greek, Chinese, Malaysian, Indian, Thai, Japanese, Moroccan and lots more. Melbourne has over 100 art galleries as well as theatres, international and local opera, ballet, comedy and live music.

Each year Melbourne hosts major international sporting events like the Australian Open Grand Slam tennis tournament, the Formula One Grand Prix, the Rip Curl Pro surfing championship, the Australian Masters golf tournament, the Melbourne Cup and the Grand Final of Australian Rules Football. As well as over 2500 festivals and events including the Melbourne International Arts Festival, Melbourne International Film Festival, Melbourne International Comedy Festival and the Melbourne Spring Racing Carnival.

Find out more:
https://liveinmelbourne.vic.gov.au/discover

Victoria: The Garden State

Victoria has many notable gardens and 36 national parks covering two and a half million hectares. Victoria's many attractions include the Great Ocean Road, (stunning coastal views and the world-famous Twelve Apostles), the Grampians and the High Country.

Find out more: visitvictoria.com

La Trobe University Campuses in Australia

Each of our seven campuses (Melbourne, Albury-Wodonga, City, Bendigo, Shepparton, Mildura and Sydney) is a unique expression of place, people and history that play an important role in social, cultural and economic life. We are located in Victoria's major regional cities, creating a unique network of research, industry and innovation expertise that can be accessed across the state.

Melbourne Campus

La Trobe's Melbourne Campus has 27,000+ students and is surrounded by bushland. Students from across the world take advantage of state-of-the-art facilities, including our AgriBio Research Centre, the La Trobe Institute for Molecular Science and our very own Wildlife Sanctuary.

Albury-Wodonga Campus

La Trobe's Albury-Wodonga Campus has 800+ students and is home to our leading regional research centre, the Centre for Freshwater Ecosystems which focuses on water science and policy of the Murray-Darling basin. Here, undergraduate students work alongside Honours and research students on local issues.