



**DEAKIN**  
UNIVERSITY AUSTRALIA

# SUSTAINABLE REGIONAL DEVELOPMENT

MASTER OF SCIENCE (RESEARCH)

[deakin.edu.au/reg-development](https://deakin.edu.au/reg-development)



## DEAKIN UNIVERSITY, AUSTRALIA

Deakin University is a top-rated university that produces world-class graduates. Industry-focused degree programs and a strong international outlook mean that Deakin graduates are ready for the global workplace. Deakin is ranked in the Top 3% of universities worldwide and was named the 2014 International Educator of the Year at the Victoria International Education Awards.

Deakin has four modern, fully equipped campuses and an innovative online learning environment (CloudDeakin). Our approach to learning puts emphasis on real-world experience and professional practice, but without sacrificing our commitment to high quality research. Deakin is a young, dynamic university that offers research students the chance to innovate and prosper.

# SUSTAINABLE REGIONAL DEVELOPMENT

## MASTER OF SCIENCE (RESEARCH)

### SUSTAINABLE REGIONAL DEVELOPMENT AT DEAKIN

Globalisation, population growth, economic structural adjustments, and climate change are having an impact on regional and rural economies, environments and communities around the world. This is cause for major concern, but through targeted analysis and proper planning these changes can be harnessed to create new economic, social and environmental opportunities for regional/rural areas and communities.

With these issues in mind, Deakin University now offers students undertaking the Master of Science (Research) the opportunity to specialise in sustainable regional development. Graduates of this specialisation will be well-prepared for employment in rural and regional socio-economic and environmental planning that promotes the long-term competitive advantages of regional and rural areas.

### COURSE OVERVIEW

The Master of Science (Research) can be completed over two years of full-time study. The course will provide students with advanced research training, specialised coursework and professional skills development. Graduates will be well-prepared for careers in research as well as industry and government.

Graduates will also be well positioned to apply for PhD studies.

### CAREER OPPORTUNITIES

Graduates of the sustainable regional development specialisation may find employment in the following areas:

- planning (strategic, economic, regional, rural, environmental, statutory)
- management (including environmental management)
- policy development
- socio-economic and demographic analysis.

Potential employers include:

- government - local, state, provincial (regional) and national
- departments and agencies with a focus on regional/rural areas, economic development, natural resources including agriculture and forestry, the environment or policy development
- scientific, planning, engineering, architecture, economic and environmental consultancy firms
- statutory authorities such as Regional and Catchment Management Authorities, and Water Boards.

### COURSE STRUCTURE

The Master of Science (Research) course in sustainable regional development consists of 16 credit points of study:

- four core units (4 credit points) in research training and methods;
- four advanced disciplinary units (4 credit points) in sustainable regional development; and
- a research thesis that is taken over two trimesters (8 credit points).

The first year of the course must be completed in Australia at Deakin University's Burwood Campus.

The second year of study consists of a research thesis that can be completed from anywhere. This provides you with the opportunity to return to your home country to focus your research thesis on a local project. Some students may return to their previous employer and complete their research thesis by applying the skills they have learned to a real-world setting.

### COURSE STRUCTURE - MASTER OF SCIENCE (RESEARCH) IN SUSTAINABLE REGIONAL DEVELOPMENT (COURSE CODE S820)

	YEAR 1	YEAR 2
	Students required to complete first year in Australia at Deakin University	Students can complete in their home country
T1*	Research Planning and Management Climate Change Adaption and Mitigation Systems and Strategic Thinking Research Frontiers Project 1	Research Thesis
T2**	Research Communication Regional Development Economics and Planning Regional Development Modelling Research Frontiers Project 2	

### WHAT WILL YOU LEARN?

Studying sustainable regional development at Deakin involves more than simply undertaking specialist subjects. All students will also study units designed to improve their research skills and knowledge, and build their capacity to effectively communicate their research results to critical audiences.

As a student undertaking the sustainable regional development specialisation within the Master of Science (Research) you will also study units related to:

**Climate Change Adaptation and Mitigation:** Climate change is a serious threat to economies, environments and communities around the world. However, for communities that strategically plan for likely climatic changes in their region, there can also be significant economic, social and environmental opportunities. This unit will provide a sound introduction to climate change, as well as climate change adaptation and mitigation from a scientific, societal and policy perspective.

**Systems and Strategic Thinking:** This unit focuses on new ways of thinking and problem solving. You will learn the important concepts and methodologies behind these new ways of thinking, as well as how to apply holistic approaches to managing complex problems and uncertain and risky situations. You will also gain experience in applying strategic planning approaches to identify the core issues in any problem situation and how to propose feasible solutions and ways of implementing them.

**Regional Development Economics and Planning:** This unit will provide you with the opportunity to learn about relevant development theories and models, and their particular contribution to understanding regional and rural development processes. You will learn how these theories and models are applied in real-world contexts across the globe. You will obtain the skills to analyse the economic situation of any particular region, as well as how to suggest possible development policies for the region of interest.

**Regional Development Modelling:** This unit will provide you with the opportunity to learn about geographical spatial analysis and modelling techniques. Knowledge of these advanced techniques will enable you to support your decision-making through the integration of social, economic and physical factors. This unit emphasises the practical application of techniques through several hands-on tutorials and project exercises.

\* Trimester 1

\*\* Trimester 2



## WHAT IS SUSTAINABLE REGIONAL DEVELOPMENT?

Sustainable regional development is critical to the economic performance of both developed and developing countries, especially in the face of globalisation, population growth, economic structural adjustments and climate change. It focuses on the research, identification and application of sustainable development principles and approaches in regional/rural areas in an effort to formulate integrated strategies and policies for economic, social, environmental, and organisational development and change.

### ADMISSION REQUIREMENTS

Students interested in studying sustainable regional development are encouraged to apply for the Master of Science (Research). Applicants must have completed a bachelor's degree in an appropriate subject area such as sciences; planning; engineering; economics; sociology; ecology, conservation and environment; or organisational development. The student's undergraduate qualification must be equivalent to an Australian degree of at least three years of full-time study, with a minimum weighted average mark (WAM) or grade point average (GPA) of 65% in the final year of undergraduate study. International applicants are also required to obtain an overall IELTS score of 6.5 with no band less than 6 (or equivalent).

### HOW TO APPLY

Applications are open now for the Master of Science (Research). The first intake for this degree program is Trimester 1, 2016 (March). The application process for Deakin's Master of Science (Research) is very simple:

- Step 1: Prepare a brief statement indicating your desire to specialise in sustainable regional development.
- Step 2: Compile your supporting documents, including academic transcripts of previous tertiary studies and proof of English proficiency.
- Step 3: Submit your application online at [deakin.edu.au/apply](http://deakin.edu.au/apply)

If you require any further information or need assistance with your application, do not hesitate to contact the Faculty of Science, Engineering and Built Environment Student and Staff Support Group:

Email: [sebe-burwood@deakin.edu.au](mailto:sebe-burwood@deakin.edu.au)

Phone: +61 3 9244 6699

### COMPLEMENTARY AND EXIT POINT QUALIFICATIONS

The Master of Science (Research) degree offers the following complementary and exit point qualifications to students interested in sustainable regional development who do not wish to complete the entire master's course:

**Graduate Certificate of Sustainable Regional Development\*** is awarded after satisfactory completion of 4 credit points, that is, one year of part-time study.

**Graduate Diploma of Sustainable Regional Development\*** is awarded after satisfactory completion of 8 credit points, that is, two trimesters (one year) of full-time study (or part-time equivalent).

Students who choose to pursue a Graduate Diploma of Sustainable Regional Development will also have the opportunity to take multiple elective units providing additional knowledge in planning, environment and/or engineering.

Both the graduate certificate and graduate diploma may serve as a pathway to higher degree studies.

\*Subject to approval for 2016.

### MORE INFORMATION

For further information about studying sustainable regional development at Deakin, visit [deakin.edu.au/reg-development](http://deakin.edu.au/reg-development)

# CASE STUDIES

The following case studies are examples of real-world projects led by Victor Sposito and Robert Faggian, Deakin's sustainable regional development course directors. As a student undertaking the sustainable regional development specialisation within the Master of Science (Research), you will gain the skills needed to engage in similar development projects.

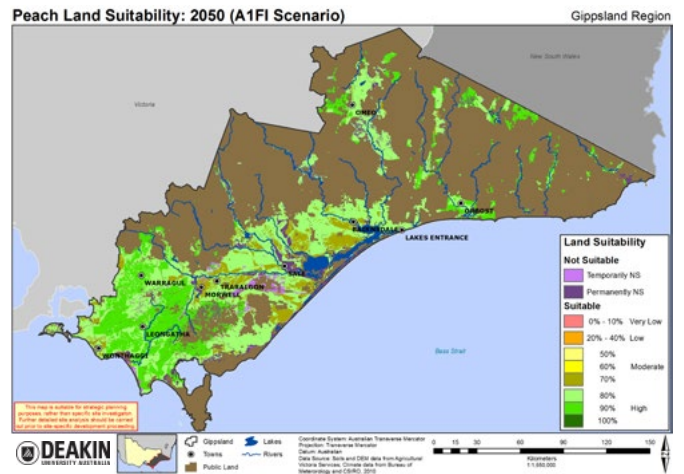
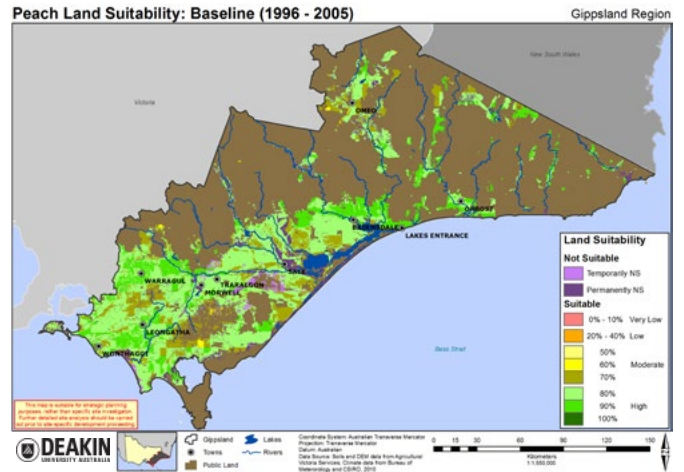
## CLIMATE CHANGE

Deakin's 'Agriculture Industry Transformation Gippsland' (AITG) project was carried out between 2009 to 2015 in partnership with the Gippsland Local Government Network, the (former) Victorian Department of Primary Industries and the University of Melbourne. The project took a broad look at the opportunities for agricultural development across the Gippsland Region of Australia, which covers the eastern half of the State of Victoria.

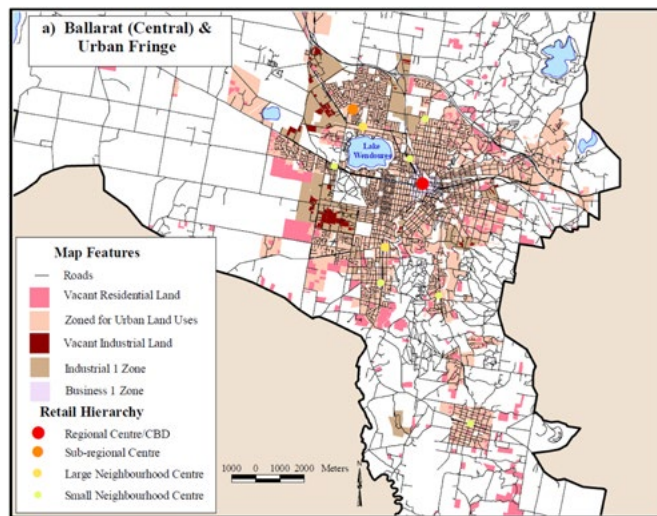
In conjunction with Gippsland farmers, the AIT-G Project developed mathematical models for 20 agricultural and forestry commodities and looked at likely yields under climate change scenarios. The resulting maps (two examples are included here) indicated that certain farming systems would face challenges if they continued with a 'business as usual approach' in a warmer and drier climate. But, there were plenty of new commodities that would either be unaffected or would perform better in the future. So, by taking these changes into account the prospects for agricultural development across Gippsland are excellent.

The models look at the biophysical environment of the plant (soil, climate and topography) to determine which geographical areas are more suitable for the production of that particular commodity. Farmer management practices were not initially considered, in order to better compare different locations based solely on their biophysical properties. Green areas on the maps indicate a geographical location that is well suited to that particular commodity and where the models predict high yields could be achieved. As the colours become lighter green or yellow, likely yields start to decline. There are also other areas that might be suitable if certain limiting factors are dealt with, like soil pH or drainage.

For more on this project visit [deakin.edu.au/aitg](http://deakin.edu.au/aitg).



The images above show the spatial biophysical suitability of the Gippsland region for stone fruit production in a recent climate (1996-2005 average) compared to the projected climate for 2050 under a worst-case climate change scenario. Some areas actually become more suitable for the production of stone fruit over time.



The map above highlights the Australian city of Ballarat, including residential, industrial and business zones.

## POPULATION GROWTH

Deakin's 'Directions for a Sustainable Future' project provided the foundation for the strategic long-term expansion of the City of Ballarat in regional Australia – from a population of 85 000 in 2006 to 130 000 by 2031. This strategy was formulated from the standpoint of ecologically sustainable development to realise the twin goals of achieving economic development and enhancing the natural resources and environment of the city. It was thus guided by the concepts of ecological-towns (or eco-towns) and liveable neighbourhoods. The strategy set up: (i) the basis for assessing land use, environmental and economic development proposals, and (ii) implementing actions for turning the strategy into tangible reality.

# THE COURSE DIRECTORS



## **Dr Robert Faggian, BAppSci (Hons), PhD**

Dr Faggian is Associate Professor, Climate Change Adaptation in Deakin's Centre for Regional and Rural Futures. He also holds two honorary positions at the University of Melbourne (with the Faculty of Veterinary and Agricultural Sciences, and the Melbourne School of Engineering) and is an affiliate member of the Melbourne Sustainable Society Institute. His research at Deakin University has focused on determining the potential impacts of climate change on agriculture at the regional level, and the implications for regional development. He has worked extensively across regional areas of the State of Victoria, where his research has had a major impact in terms of on-ground practice and policy. Prior to joining academic ranks, Dr Faggian was a Senior Research Scientist in Agricultural Systems with the (former) Department of Primary Industries of the Australian State of Victoria, leading major projects in systems science, climate change modeling and adaptation, water resource management, plant pathology and molecular biology. Dr Faggian lectures in climate change adaptation, regional development, systems and strategic thinking, plant pathology, plant physiology, plant biochemistry, plant genetics and molecular biology.



## **Victor A. Sposito, MPhil Regional Planning (Edinburgh), MSc Civil Engineering (Uruguay and Texas)**

Mr Sposito is Associate Professor Strategic Spatial Planning in both Deakin University's Centre for Regional and Rural Futures and School of Engineering. Until recently, Mr Sposito was a Principal Scientist and Project Director in the (former) Department of Primary Industries of the Australian State of Victoria. Over many years, he held positions as Executive Director/Director of Strategic Regional and Metropolitan Planning in the (former) Ministry for Planning and Environment. Mr Sposito has led major projects in national, regional/rural, urban and organisational development and planning in Australia and internationally, and has an international and national reputation for leading-edge initiatives in sustainable development. He has written and published widely in these fields, and has lectured and researched at a number of Australian universities as well as universities in North and South America, and Europe. Current work involves both theoretical and applied research on sustainable regional/rural development, climate change impacts and adaptation in regional/rural systems, and systems thinking (systems science).

## CONTACT US

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