UNIVERSITY OF BALLARAT

The University’s approach to research

The University of Ballarat aspires to undertake internationally recognised research, and engage in knowledge transfer, that has demonstrable relevance to, and impact on, communities, industries and regions served by the University.

The University is pursuing strategies to increase the critical mass of research and produce high quality output. It is emphasising partnerships, collaborations and integration in the interests of regional understanding and capacity building.

Creating strong knowledge partnerships with industry and government is also a key strategy by which the University contributes to regional innovation. Its principal innovation platform is the UB Technology Park which is the largest regional technology park in Australia.

The University’s approach to research training is increasingly through a research cohort model in which clusters of students in a common discipline undertake a Higher Degree by Research. These cohorts are offered special training programs designed to meet their particular needs. For example the University recently launched the first nationwide VET cohort model with an enrolment of nine senior executives from TAFE undertaking PhD training in VET education. It also recently launched the Australian Postgraduate History cohort.

Areas of research strength

The University of Ballarat is focussing significant research effort in four broad areas: Innovation in science and technology; Regional futures; Addressing disadvantage in education and health; and Healthy living, healthy ageing and wellness. Much research effort is focussed on building resilience in rural and regional communities.

The University currently has three designated research centres: Centre for Environmental Management (CEM); Centre for Informatics and Applied Optimisation (CIAO); and Centre for Regional Innovation and Competitiveness (CRIC).

Impact of research (or other notable research achievements)

- The University’s Technology Park (UBTP), the largest technology park in regional Australia, employs over 1500 staff across 40 different companies. The UBTP is the home of the University’s Internet Commerce Security Laboratory (ICSL), Centre for eCommerce and Communication (CeCC), and the Centre for Regional Innovation and Competitiveness (CRIC).

The ICSL, a partnership between IBM, Westpac and Australian Federal Police, is developing state-of-the-art anti-fraud detection software, cyber- and internet security software for commerce and industry. It is also pioneering discoveries in face recognition software that is used for example in homeland security and child pornography detection, and in developing new anti-piracy technology for the film and music industries.

CeCC provides research and services to 20+ regional and national companies in digital knowledge management, single source publishing, web-based geographic information systems (GIS), data visualization, eResearch and NBN applications. Current major projects include Visualizing Victoria’s groundwater and 3D telemedicine. The Director of CeCC is a member of the 21 national broadband champions in Senator Conroy’s Department of Broadband Communication and Digital Economy.

CRIC focuses research in regional innovation. Major current projects include: the Solar Cities Project - methodology and framework for evaluation of impact on policy and future programs for energy efficiency in households and small businesses; RDA Workforce Development in the Grampians region; Community Attitudes towards Electronic Gaming Machines; Training Needs for Women Entrepreneurs in the Digital Economy; RDV Provincial Victorian campaign (with outcomes used to develop the State Government’s ‘Make It Happen in Provincial Victoria campaign’; and Ballarat ICT 2030 Strategy – City of Ballarat.

- Nanya and Euston Conservation Parks. Nanya Station (40,000 hectare) and Euston (8,000 ha) are magnificent properties located in far-western NSW that contain unique systems of natural salt lakes, old growth Mallee, and a variety of intact ecosystems. These eco-parks are significant refuges for biological diversity. The University manages these properties for conservation and cultural values, education and research. Nearly 400 flora and fauna species have been recorded at Nanya, of which nine have not previously been recorded. There are 22 plant communities on Nanya of which two are dominated by species not previously recorded in NSW. These ecological parks are the largest parks managed by a university in Australia.

A snapshot of recent impacts

- Aboriginal History and Heritage Tourism – Convincing Grounds Massacre at Portland Bay research led to a two part ABC Message Stick program. This research also appears on the Museum Victoria website.

- Burke and Wills Scientific Expedition and Heritage Tourism outcomes - Formal inquest of the mock Coronial Enquiry into the deaths of Burke and Wills with a UB researcher being an expert witness on the role of the indigenous communities. This was followed by a major symposium held with the Royal Society of Victoria which explored how Indigenous communities assisted the famous 1860 expedition.
• Visiting Friends and Relations (VFR) – V/Line has introduced the "Guilt Trip" marketing strategy based on this research. Ballarat Regional Tourism launched its first major foray into the VFR market with "Discover Your Own Backyard". Destination NSW has agreed to partner on a VFR project for an ARC-Linkage grant and will assist with recruiting RTOs and Local Councils to participate in the project.

• Eco-Innovation and Sustainable Development for Developing Economies - UB researcher consulted by the new democratic Tunisian government on eco-innovation and regions research.

• Men's Shed Movement - Research has greatly informed international thinking, policy and practice in men’s wellbeing. The Men’s Sheds project, now number around 800 in Australia and 100 overseas, are based on models, shown through research, to provide opportunities for older men to learn informally and give back to the community. These models have been shown to be transferable to younger unemployed men in nations experiencing severe economic downturns such as Ireland and England. UB Professor is Patron of the Australian Men’s Shed Association, Convenor of the International Federation of Men’s Sheds Organisations and President of Adult Learning Australia.

• VET Education – a UB Professor is leading international research in VET education, supported by several ARC grants. The Professor is co-chair of the International Network on Innovative Apprenticeship (INAP) and held this position since 2008. The network has over 100 active members who are policy-makers, practitioners and academics world-wide. Recently invited by the International Labour Organization and the World Bank to undertake a research project to produce principles for the development of the small Indian apprenticeship. Invited to prepare a paper for the 2011 national report on 'Expert Panel on Apprenticeships'. This research informs Group Training Organisations to reduce apprentice attrition. An NCVER-funded project on traineeships resulted in the production of a Good Practice Guide for training providers and employers.

• The Sports Surface Research Group has undertaken leading-edge research in the link between surface properties and injury, the validity of surface testing equipment and the development of guidelines and standards for synthetic turf use for Australian football and cricket. This research led to the certification process for synthetic turf surfaces in Australia and have been used to inform the development of standards for other sports worldwide.

• Health through Sport and Physical Activity research has effected change in sport and recreation industry programs at both state and national levels, and has directly led to State and National bodies collaborating for the first time.

• Gender Equity - Gender is a core factor influencing socio-economic status. UB is developing a research gender lens tool which can audit documentation and provide organisations with positive strategic directions on how to improve women related outcomes.

• Sexual Health and Puberty Education - Comprehensive sexuality education can have a profound positive effect on adolescence. UB research is implemented in practical education programs promoting better sexual health and understanding in youth across our regions.

• Cardio-vascular disease - A big heart size and high blood pressure are both common conditions which lead to heart disease - the number one cause of death and disablement in Australia. Sometimes these diseases occur when the body is under stress from the environment (e.g. smoking). At other times no cause can be found. Men are more prone to die of heart disease compared with women of a similar age. This research group is examining the genetic causes of heart disease. Whilst there are many universities in Australia with excellent cardiovascular research laboratories we are the only world-class laboratory to investigate the genomics of cardiovascular disease.

Collaborative Research Network

The University of Ballarat's $6 million Self-Sustaining Regions Research and Innovation Initiative, supported through the Australian Government’s Collaborative Networks program, is developing strong research partnerships with Deakin University, The University of Melbourne, and Monash University to focus research in three keys elements: Regional science and technology innovation; Regional social and educational connectedness and health innovation; and Regional landscape change.

The CRN is underpinning the University’s desire to deliver relevant research outcomes to the communities it serves. The CRN funding along with co-investment by UB has resulted in the appointment of a dozen new postdoctoral research fellows and a principal and a senior research fellow at UB. It is anticipated that up to 30 Higher Degree by Research students will be trained in the CRN. The CRN is proving to be a significant uplift for research capacity building in the University through joint publication and joint research grant applications in selectively intensive research platforms consistent with the University’s mission and aspiration to build resilient self-sustaining regions.