

# Theme Area Definitions

## **Antarctic and Marine Studies**

The Centre for Marine Science brings together the activities of staff involved in marine and Antarctic studies. Activities in this theme are enhanced by the Tasmanian Aquaculture and Fisheries Institute (TAFI) and the Institute of Antarctic and Southern Ocean Studies (IASOS).

UTAS has developed strong research and teaching programs in relation to the Antarctic continent, temperate marine science and the Southern Ocean. These activities include climate change and variability, oceanography, marine chemistry and geoscience, marine biology and ecology, wild fisheries and aquaculture, marine biotechnology, marine environment (including marine protected areas, marine biodiversity, protection from marine pests and Natural Resource Management), marine law, policy and international relations, Antarctic ecosystems, flora and fauna, Antarctic policy and international relations, and representations of the marine and Antarctic environments through literature, music and the visual arts.

Significant collaborative activities with the Australian Antarctic Division, CSIRO Marine Research, the Aquafin Cooperative Research Centre and the Antarctic, Climate and Ecosystems Cooperative Research Centre, as well as many international linkages further strengthen the theme.

## **Community, Place and Change**

The theme area encompasses disciplines in the humanities, social sciences, commerce and creative arts, as well as education, law, health and policy issues in science.

Research in this theme area is assisted by activities within the Tasmanian Institute of Law Enforcement Studies, the Tasmanian Law Reform Institute and the Cooperative Research Centre for Sustainable Tourism.

The Community, Place and Change theme area addresses research and teaching that advances the individual and collective understanding of the dynamic character of different communities-of-place and communities-of-interest. Exploring the scope and meanings of 'change' and 'community' is integral to that task. Contributors appreciate the need to develop strategies to enhance community wellbeing; enable consultation, participation and communication; and promote community action and interaction in the quest for sustainable, developing communities. It embraces various sub-themes. These include - but are not confined to- the indigenous and multicultural; community identity, history and heritage; community and commerce; social, economic and other processes involved in the constitution of resilient or at-risk communities; governance, governing and policy communities; urban, rural and regional communities; island and border communities; situated and virtual communities; and creative and transformation communities, changes in global climate and its impact on communities and understanding our region and the world.

## **Environment**

Research and teaching in this Theme Area are spread across many Schools in the University, including Geography and Environmental Studies, the Life Science Schools (Agriculture, Aquaculture, Plant Sciences and Zoology), Architecture, Engineering, Law, Government, Sociology, Social Work, Tourism and Accounting and Finance.

Research and teaching in this theme area are enhanced by the concentration of activities through the TIAR partnership with the State Government, and through the Cooperative Research Centre for Sustainable Tourism.

With an extremely diverse landscape and large areas designated as World Heritage or National Park, Tasmania is an exciting place for teaching and research on the environment. Some of this is focussed solely on the Tasmanian environment, but other aspects of this work have a national or international dimension, especially in comparative studies. Research and teaching programs in this area include the built environment, ecosystem and wilderness management including protection of rivers and groundwater, natural resource management, environmental engineering, waste management, water management, soil salinity and acidity and environmental remediation, new technologies to minimise environmental impacts, new energy technologies, capture and sequestration of carbon dioxide, mapping and protecting biodiversity, IT for environmental management and monitoring, biodiversity, environmental law, policy and politics, environmental tourism and the impacts of tourism on wilderness, environmental management, accounting and economics and representations of landscape in art, music and literature.

### **Frontier Technologies**

The Frontier Technologies theme activities are carried out in most of the Schools in the faculties of Science, Engineering and Technology, Health Sciences as well as the faculties of Arts and Commerce.

This theme is enhanced by major initiatives in separation science in the Australian Centre for Research on Separation Science, through the partnership with the Smart Internet Technology Cooperative Research Centre and the new Tasinformatics Centre of Excellence in Health Informatics and Bioinformatics.

This theme embraces the breakthrough science and technologies that will facilitate innovation and an understanding of fundamental science. It includes biotechnology, IT (particularly health and bioinformatics), molecular sciences, including genomics and proteomics, separation science, engineering, exploration of the stars and the technology underpinning effective data management and the use of digital media in the generation of creative works. This theme also addresses the factors that affect innovation and its uptake and the use of digital technologies in business incorporating these latter issues in undergraduate and graduate teaching programs in the faculties involved.

### **Population and Health**

Teaching and Research in this theme area are carried out in all Schools within the Faculty of Health Science (Medicine, Pharmacy, Nursing, Human Life Sciences and Rural Health) as well as in the Schools of Psychology, Sociology Social Work and Tourism, Information Systems, Computing and Economics.

This theme incorporates the work of the expanding Menzies Research Institute and the Centre for Clinical Research and is enhanced by the Partners in Health relationship with the Tasmanian Department of Health and Human Services and the support of health professionals throughout the state.

The health and wellbeing of Australians is a significant national priority. Our research and teaching programs utilise the advantages of working with the Tasmanian population, which has unique characteristics being dispersed in a rural island environment. The programs range across the basic biomedical sciences, epidemiology and clinical studies as well as the social sciences that are critical in understanding the behaviour of people in relation to their health. Preventative health, education and health promotion play an important role in this theme, as do the social and economic factors that are also determinants of health and wellbeing. Many of the studies take advantage of well-established links with the Tasmanian population.

### **Sustainable Primary Production**

Teaching and research in Agriculture, Aquaculture and Fisheries, Forestry and Earth Sciences are carried out in the Schools of Agriculture, Aquaculture, Earth Sciences, Plant Sciences and Zoology.

This theme area is enhanced by significant partnerships between the state government in the Tasmanian Aquaculture and Fisheries Institute (TAFI), and the Tasmanian Institute of Agricultural Research (TIAR),

by the national Australian Centre of Excellence in Food Safety created within TIAR, links to the Aquafin CRC and the CRC for Sustainable Production Forestry and the ARC Special Research Centre in exploration geosciences, the Centre for Ore Deposit Research (CODES).

Australia has a number of important primary producing industries including agriculture, aquaculture and fisheries, forestry and mining. This theme includes research and teaching that provide new research outcomes and trained personnel that support these industries. The research and teaching programs in agriculture (including horticulture, viticulture and food science), aquaculture and fisheries, forestry and forest related enabling sciences and in developing deep earth resources using technology, have state benefits but are national and international in operation, relationship and quality.