HEALTH FUTURES

The Health Futures theme is home to some of the UTS's most exciting applied research. It is also where some of our strongest industry partnerships were developed and continue to thrive.

Across the many leading research centres and groups throughout UTS, researchers and scientists are investigating health issues at the cellular and the societal level. UTS experts are providing insight into the diagnosis, treatment and prevention of infectious and other diseases. We're improving the quality and safety of health care by developing cutting-edge biotechnology and medical devices. By evaluating health systems and services and conducting economic analyses, we're also improving practices to take health into the future. We're interested in the processes, tools and technologies which will ultimately deliver better patient outcomes.

Our researchers work in partnership with hospitals and other health care providers, government agencies, medical research institutes and industry organisations who are seeking solutions to health-based research problems, including GE Healthcare, Cochlear Limited and Agilent Technologies.

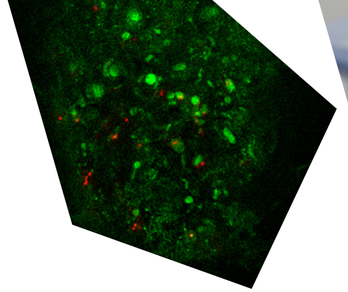
We're also one of only two institutions in Australia to lead a World Health Organisation (WHO) Collaborating Centre for Nursing, Midwifery and Health Development in support of WHO objectives for global public health, and the NSW Cardiovascular Research Network.

ITHREE INSTITUTE

CENTRE FOR HEALTH ECONOMICS RESEARCH AND EVALUATION

HEALTH SERVICES AND PRACTICE

CENTRE FOR HEALTH TECHNOLOGIES



Why UTS?

CUTTING-EDGE TECHNOLOGY

The Microbial Imaging Facility at UTS houses the first-ever commercially installed DeltaVision OMX Blaze super resolution microscope. One of only a few in the Southern Hemisphere, this device is capable of capturing real-time multiple colour images of interactions between micro-organisms and living cells.

Researchers in the ithree institute are using this technology to capture and record images and video of live microbial cells, something considered impossible before the advent of super resolution microscopy.

The joint Nuclear Magnetic Resonance facility, established with industry partner Agilent Technologies, houses cutting-edge technology that supports a number of research projects. Researchers into osteoporosis are using it to identify and measure drug treatments, and to analyse solid tissue samples and bacteria in search of more effective treatments.

The Agilent Elemental Bio-Imaging Facility's multi-million dollar instrumentation has many research applications, including the detection of trace elements and their interactions with proteins in the body, assisting clinical diagnosis and investigating drug actions for a range of diseases such as Parkinson's and Alzheimer's.

Our Microstructural Analysis Unit houses an array of state-of-the-art analytical microscopy tools as well as materials analysis and fabrication equipment. In addition to a range of scanning probes and scanning electron microscopes, the lab also houses instruments for X-ray diffraction, spectroscopy, optics and nanophotonics which allow our researchers to image, analyse, test, manipulate and fabricate materials and objects at the nanoscale.

UTS researchers also have access to clinical simulation facilities which are of use when undertaking projects related to patient care, clinical and surgical processes and scenario modelling.

WORLD-LEADING RESEARCH

The Australian Research Council's 2012 Excellence in Research for Australia (ERA) rated 100 per cent of all assessed UTS research as "world standard or above" to "world leading".

Our research in the fields of nursing and human movement and sports science in particular was ranked as ERA five or "well above world standard".

RESEARCH WITH IMPACT

Delivering research which has real impact on society is a core element of the UTS vision. The Centre for Health Technologies developed the concept for a non-invasive device to accurately measure nocturnal hypoglycaemia in people with Type 1 diabetes, which has since been commercialised. The device helps people to manage their condition with greater independence, in a less invasive manner.

The Centre for Health Technologies is also behind the autonomous thought-controlled wheelchair which identifies and classifies users' brain signals and translates them into commands to control the wheelchair.

The first 3D images of the main protein that controls bacterial cell division have been captured at the ithree institute. Using the DeltaVision OMX Blaze microscope, researchers have been able to verify the shape of the protein. This breakthrough could lead to the development of new generations of antibiotic drugs.

Research being conducted in collaboration with Cochlear is demonstrating how design modifications can reduce the risk of infection as a result of biofilms forming on medical devices, making them safer for device recipients.

The Centre for Health Economics Research and Evaluation provide a core function that has a major impact on one of the largest and fastest-growing government expenditure programs. They assist the Pharmaceutical Benefits Advisory Committee (PBAC) in providing advice to the Minister for Health on which drugs should be listed in the Pharmaceutical Benefits Scheme (PBS) and which vaccines should be added to the National Immunisation Program.

GLOBALLY RECOGNISED

UTS is ranked in the top 500 universities in the Academic Ranking of World Universities.

UTS was ranked 10th in Australia at 272 in the QS World University 2013–2014 index. UTS ranks first in Australia and 20th in the world for universities under 50 years old according to the 2014 edition of the QS Top 50 Under 50 index of newer universities – those less than 50 years old. The rankings are based on research, teaching, employability and internationalisation.

UTS was ranked in the top 350 universities in the Times Higher Education World University Rankings 2013–2014 powered by Thomson Reuters, and ranked 10th in Australia. For universities under 50 years old, UTS was ranked 83rd globally.

RESEARCH CAPABILITIES

At UTS, our research is conducted both within nationally recognised Research Strength centres as well as faculty-based centres. UTS researchers within this theme are currently investigating the following areas:

- Bacteriology
- Biology
  - > Cellular and molecular biology
- Cardiovascular and chronic care
- Chemistry
  - > Biochemistry, protein chemistry
- Child and family health
- Complementary and integrative medicine
  - > Acupuncture
  - > Traditional Chinese medicine
  - > Use of complementary medicine
- Forensics
- Health policy
- Health workforce
- Immunology
- Medical and biomedical sciences
- Midwifery
- Nanotechnology and biotechnology
- Nursing
- Parasitology
- Primary health care
- Science management
- Sport and exercise
- Virology

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HEALTH

STARTING A RESEARCH COLLABORATION WITH UTS

A research partnership allows you and your organisation to access the skills and knowledge of UTS's talented people and our leading facilities. We have opportunities for organisations of all sizes to engage with our research solutions.

There is a collaborative research model to suit whatever organisational outcome you are seeking, regardless of the type of challenge you're looking to address.

CONTRACT RESEARCH

If you have a particular problem in mind and a sense of the research area that is relevant to your needs, UTS can work with you to develop a research contract to solve the problem.

COLLABORATIVE RESEARCH

You can contribute intellectual input and resources including staff, funding, materials and facilities to collaborate with UTS researchers on a project that fits your business objectives.

INDUSTRY FUNDED PHD SCHOLARSHIPS

Enhance the professional capacity of your staff or bring in a UTS PhD student to undertake targeted research for your business. An industry funded PhD can provide unique benefits and low cost research solutions and position you as a global leader in your field.

AUSTRALIAN COMPETITIVE GRANTS

You may choose to leverage your research investment by aligning with a UTS application under the Australian Competitive Grants Register. Relevant funding schemes include ARC Linkage Grants and NHMRC Development Grants.

COMMERCIALISATION OPPORTUNITIES

UTS has many inventions and technologies that are under commercial development. You can support their further research or license the technology for commercial use.

GOVERNMENT SUPPORTED RESEARCH

Our industry partners have achieved exciting successes working with UTS through government schemes such as Tech Vouchers and Researchers in Business. As a UTS industry partner, you may also be eligible for R&D tax credits.

FIND A COLLABORATOR

UTS researchers are actively seeking new opportunities for collaboration with other researchers, domestically and internationally, and increasing our research collaboration is key to the overall UTS research strategy. We are also committed to promoting innovation and excellence in researcher education, including fostering and maintaining a vibrant research community.

Contact our team to get some ideas about the sort of research expertise that will best fit your needs.

UTS Research and Innovation Office
E: rio@uts.edu.au T: +61 2 9514 9681
www.uts.edu.au/research

Find out how you can engage with collaborative research opportunities in one of UTS's other research theme areas:

Sustainability and the Built Environment

Across areas from climate, water, energy and health to the built environment, UTS researchers are working to provide holistic research approaches to environmental issues and policies.

Creative Industries and Civil Societies

UTS researchers from the arts and social sciences, design and the sciences give a unique perspective on cultures, creative practice, knowledge and learning and cultural change. This ranges from the impact of technology upon society and the characteristics that affect social cohesion and cultural change to the opportunities for creativity and creative industries.

Business Innovation

Our experts are world-leading in fundamental discipline areas such as finance, economics, accounting, marketing and management with innovative cross-disciplinary approaches to the role of business and public policy in addressing key economic, social and environmental problems.

Communication and Intelligent Systems

This theme addresses issues that are fundamental to society, namely how we communicate and share information. Researchers examine new ways to draw insight from oceans of data, understanding and leveraging the communication potential of new media and technologies, design real-time intelligent systems and investigate how regulation can promote the free and ethical flow of information.

Future Services, Industries and Productivity

UTS researchers in areas such as robotics, IT and nano-materials are defining and supporting the next generation of Australian industry and services.

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