

UC RESEARCH

over 150 years

Te Whare Wānanga o Waitaha, University of Canterbury (UC) celebrated its 150th anniversary in 2023. This document reviews some of the milestones across the national and global research system as well as provides examples of significant UC research contributions over the years. It is not comprehensive, but rather aims to be illustrative, with some examples from the past 150 years of UC's history that shape its current research programme.



Photographic card, Canterbury College and Canterbury Museum buildings, 1880, FD2210.0001.0002.0001.0001.0013. Macmillan Brown Library, Christchurch, New Zealand. http://kohika.canterbury.ac.nz/opac_canterbury/index.html

Multidisciplinary Perspectives

Canterbury College is founded on 16 June 1873 with 87 students.

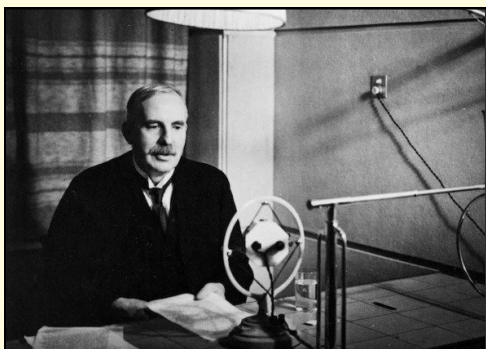
First faculty included:

- **Alexander Bickerton**, Chemistry & Physics
- **John Macmillan Brown**, Classics & English
- **Charles Cook**, Mathematics & Natural Philosophy

This breadth of disciplines persists 150 years later, with 7 faculties, approximately 900 academics, and 22,000 students, it is a vibrant multidisciplinary research environment.

Research Excellence

In 1901, the Nobel Prize awards were established, with prizes going to those who have had positive impacts on humanity in the fields of physics, chemistry, physiology or medicine, literature and peace. These awards have contributed to heightened global awareness of research and its contributions to addressing critical societal issues.



Rutherford (above): Ernest Rutherford. Tourist and Publicity. Ref: 1/2-035078-F. Alexander Turnbull Library, Wellington, New Zealand. <https://natlib.govt.nz/records/23218542>

In 1908 **Ernest Rutherford** was one of the first to win the Nobel Prize in Chemistry. He attended Canterbury College from 1890 to 1894 and obtained 3 degrees, with a focus on mathematics, physical sciences, geology, and chemistry.

His Nobel Prize was awarded for his research on radioactive substances and the disintegration of the elements.

1873

1890

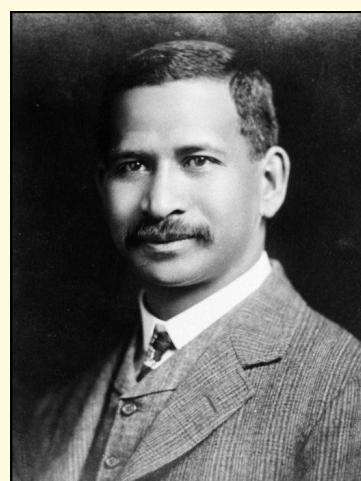
1900

1910

Biculturalism + Tiriti Partnerships

Apirana Ngata becomes first Māori scholar to complete a university degree in 1894. He was knighted for services to Māori in 1927.

More than 100 years later, the **Ngāi Tahu Research Centre** was established in 2011 as a joint initiative between Ngāi Tahu and UC with the vision to lead and support tribal development and establish itself as the foremost indigenous research centre in Aotearoa New Zealand and the Pacific.



Apirana Ngata: Apirana Turupa Ngata. General Assembly Library: Parliamentary portraits. Ref: 35mm-00094-d-F. Alexander Turnbull Library, Wellington, New Zealand. <https://natlib.govt.nz/records/23114827>

Gender Equity

Helen MacMillan Brown (née Connon) was the first female admitted to UC and the first honours graduate in the British Empire in 1881. Helen's legacy continues today with a bursary in her name awarded to 10 female students each year.

In 1893, Aotearoa New Zealand was the first self-governing country to give women the right to vote.

At the university, **Elizabeth Herriot** was the first woman appointed to the permanent teaching staff. In 1916 she was appointed Assistant Lecturer in the Department of Biology and then promoted to Lecturer in 1928 until her retirement in 1934. It wasn't until 1970 that UC had its first female Professor, Jane Soons.

Elizabeth Herriott (left). Ref: PA1-q-1057. Alexander Turnbull Library, Wellington, New Zealand. <https://www.royalsociety.org.nz/150th-anniversary/150-women-in-150-words/1867-1917/elizabeth-herriott/>



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Earthquakes + Resilience

In Aotearoa New Zealand research on earthquakes and their impacts represents an important domain of scientific research and a particular area of expertise at UC. The 1931 Hawke's Bay Earthquake represented one of the first times that science was used for political advocacy to support the rebuilding process and has guided future responses such as the 2010 and 2011 Canterbury earthquakes.

Research and advocacy around natural hazards continue at UC today through a range of research and training programs such as **QuakeCoRE**, **The Cluster for Community and Urban Resilience (CURE)**, the **Institute of Law, Emergencies and Disasters (LEAD)**, and undergraduate and postgraduate studies in **Disaster Risk and Resilience**.



Coxhead, V. Damage to Christchurch Cathedral, 2011. CCL-Kete-VaCo-IMG-5825. Christchurch City Libraries, Canterbury Stories. <https://canterburystories.nz/collections/community/vanessacoxhead/ccl-cs-18128>

Aerospace + Astronomy

In 1961 **Beatrice Tinsley** graduated from UC with a degree in physics with first class honours. She made waves as a young researcher and advanced scientific understanding of the universe.

Today at UC, students and staff have access to Mt. John Observatory in Tekapo's Dark Sky Region and top research in aerospace through a range of research programmes, including the **Spatial Engineering Research Centre (SERC)** and research in partnership with **Tāwhaki**, to combine mātauranga Māori and aerospace innovative technology.



University of Canterbury. Mt. John Observatory field station. All rights reserved.

1920

1930

1940

1950

1960

1970

Scientific Methods



Popper, K. R. Untitled, 1939, MB456, 1440/1939, Macmillan Brown Library, Christchurch, New Zealand. http://kohika.canterbury.ac.nz/opac_canterbury/index.html
Kā Kohika

Sir Karl Popper, who was at UC between 1937 and 1945, had a profound influence on scientific methods and how research was done. He advanced the importance of deductive reasoning whereby scientific theories should make predictions that can be tested. While not without critique, it has had a decided influence on research since it was proposed.

Gateway to Antarctica

Expeditions into Antarctica accelerated in the 1950s, and in 1960 biologist **Bernard Stonehouse** joined UC. He established the Antarctic Biological Science unit and Antarctic research progressed at a much larger scale from the 1990s.

Today, **Gateway Antarctica** (opened in May 2000) is a vibrant transdisciplinary research centre with a vision to:

- improve understanding of Antarctica and the Southern Ocean
- support more effective management of the fragile ecosystem
- be a focal point and catalyst for Antarctic scholarship



Rack, U. Photograph of Antarctic research station, 2015. Author's personal collection.

International Exchange

In 1960, the **Erskine Programme** was established as the largest international teaching exchange programme globally. Over 63 years it has supported more than 2200 international academics from more than 40 countries.

This programme has enabled meaningful international collaboration across the university for both staff and student benefit.

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Research Ethics

In 1983 the Animal Protections Act removed the exemption for researchers and in 1988 the Cartwright Report in Aotearoa New Zealand called for expanded human subjects protection within research. These developments identified the core principles of ethical research that remain foundational today to ensure the rights, protections and benefits of research to participants and society. UC's human and animal subjects ethics committees followed these developments, forming in the late 80s/early 90s.

Pasifika Research

In 1988, UC announced the creation of the **Macmillan Brown Centre for Pacific Studies**, which today is a world class centre for interdisciplinary Pacific research. The Centre includes the **Global Research and Innovation Hub on the Pacific (GRIPac)** and the **Pacific Ocean and Climate Crisis Assessment (POCCA)** project, working to promote Pacific Indigenous knowledge systems and Pacific perspectives.

The Post Canterbury Earthquakes Era



Campus closed, University of Canterbury, 2011. CCL-Kete-32971. Christchurch City Libraries, Canterbury Stories. <https://canterburystories.nz/collections/community/cafe-cecil/ccl-cs-52079>

Between 2010 and 2020 UC had a significant strategic focus on recovering and rebuilding physical infrastructure on campus. Ngāi Tahu played an integral role in rebuilding for the city and for UC. UC was also heavily engaged with local and federal government to ensure research and best practice were driving recovery and planning processes.

2024 + Beyond

In 2024, the UC's 7 faculties are:

- Toi Tangata | Arts
- Te Kura Umanga | Business
- Te Kaupeka Ako | Education
- Pūhanga | Engineering
- Oranga | Health
- Te Kaupeka Ture | Law
- Te Kaupeka Pūtaiao | Science

The central themes identified over the last 150 years are carried forward into UC's research strategy as outlined in **Tangata Tū, Tangata Ora, UC Strategic Vision 2020-2030**. This document details the University's research goals to develop and support transdisciplinary, national and international research with positive impact and societal benefit. Based on its unique cultural, geographical, social and political histories, UC is well positioned to build robust research knowledge that supports sustainable, resilient, and equitable societies that are better equipped to respond to the global challenges faced in the next 150 years.

Research Funding

The 1990s represents an important point of transition for research funding in Aotearoa New Zealand. New funders included:

- In 1990 the Health Research Council (HRC) was established.
- In 1994 the Marsden Fund was established through the Royal Society Te Apārangi.

In 2012, the Ministry of Business, Innovation & Employment (MBIE) was formed. In the 2020-21 year, they spent \$1.04 billion on research, science and innovation.

In 2023 alone, UC secured over \$74 million in research funding. UC researchers receive funding from more than 70 different local, national and international funders and collaborators, with MBIE and the Royal Society Te Apārangi as its largest funders.

Research Institutes

Since 2000, UC has established numerous successful research institutes, such as the **Electric Power Engineering Centre (EPECentre)**, **Biomolecular Interaction Centre (BIC)**, and the **Rose Centre for Stroke Recovery and Research** that address key societal issues, from developing clean energy to biomedical research to support health and wellbeing. The **Child Well-being Research Institute** has secured \$34.4 million research funding between 2018 and 2023 with extensive collaborations with partner organisations and communities of interest, with particular regard to the needs of Māori and Pasifika communities.

Office of Treaty Partnerships

The 2021 establishment of the Office of Treaty Partnership, Kā Waimaero | the Ngāi Tahu Centre institutionalised UC's commitment to biculturalism and provides principles and mechanisms to ensure ongoing partnership aligning with te Tiriti o Waitangi.

1980

1990

2000

2010

2020